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ICD08274 FEBRUARY 1984 VOL. 2 NO. 4

LASER MAGIC

Dragon's Lair and Beyond

The ADAM: Hands-on review

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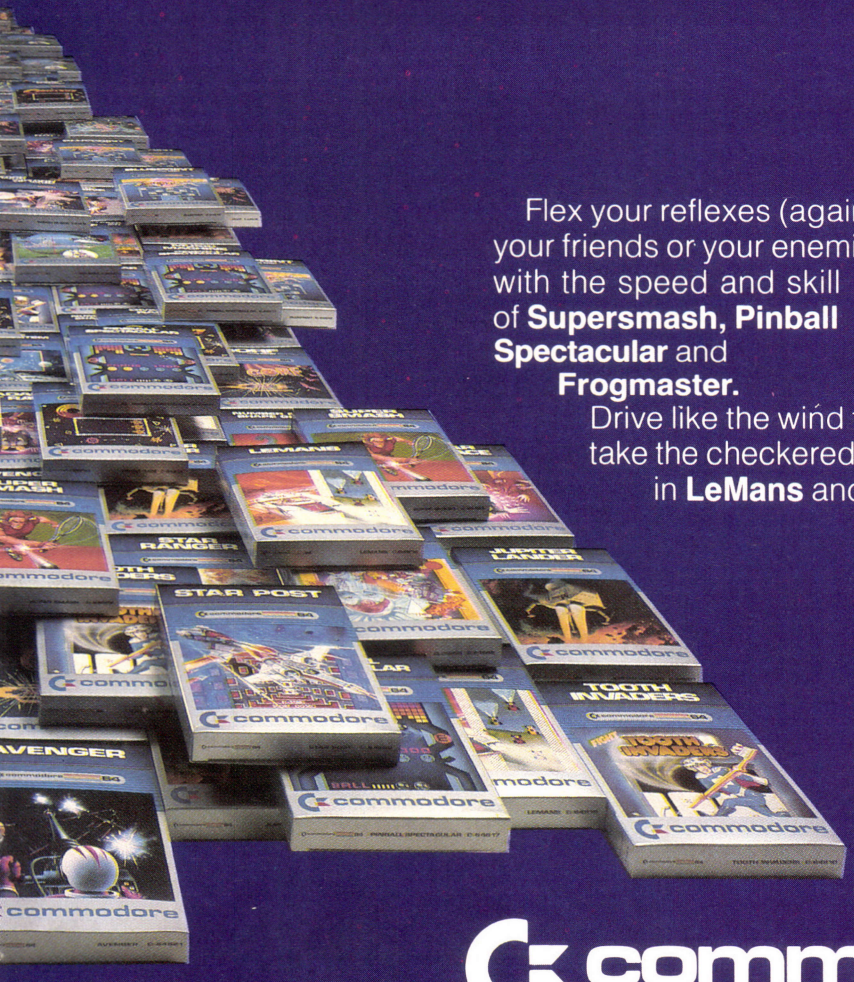

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Special Reports

SCREENPLAYS: DISCS OF TRON AND MACH 3 *By Michael Blanchet* Strategy tips on how to duck and throw space age, hi-res frisbees and how to get to Mach 3 without passing through either Mach 1 or Mach 2 ..... **14**

PAY NOW, PLAY LASER *By William Michael Brown* Sooner or laser it was bound to happen—the arcades are being taken over by the latest technology in laser games and some of the graphics are not to be believed. An inside look at the laser games of next year **21**

INSIDE ATARI *By UA* The Unknown Arcader has no pride. Though he has dedicated his life to finding the ultimate arcade, he'll still take advantage of a free trip when it's offered to him even if it doesn't strictly involve quarters or tokens. That's why he jumped at the chance to get an insiders look at what goes on behind Atari's doors **29**

ON LINE AT COLUMBIA *By Marc Berman* Maybe *you're* not worried about your education but we are. That's why we've started this new feature which will evaluate colleges across the country. After all, you don't want to end up at a school that's mired in BASIC when you're already through FORTH and ready to speak to machines in their native language..... **32**

THE FIRST ANNUAL HALL OF FUN AWARDS You picked the games and we gave the awards. Here's a behind the scenes look at what went on that historic weekend in New York City **18**

Regular Features

GAMEMAKERS: THE SPACE PROGRAM *Interview by Randi Hacker* Steve Kitchen is no slouch when it comes to detail. In his new Activision cart, *Space Shuttle*, everything in the NASA astronaut's training program is included. Everything, that is, except the...we won't say it **56**

FIRST SCREENING You asked us for more First Screenings and we listened. There are two in this issue. 1) Run for cover. Aliens are attacking Toronto in Terry Prichard's game *Air Raid* and 2) Turn your disk drive into a four speed drive in Jerry LeMaitre's game *Racer II* **65**

HACKER'S HELPER: GET ALONG LITTLE ALIENS *By Robert Alonso* Last month you learned how to turn ordinary alphabet letters into exciting alien life forms. No doubt you're now hankering after a little action. Learn how to make them respond to your joystick commands **71**

Equipment Reviews

COMPUTER WORKOUT: ADAM AND THE ANSWERS *By Jules H. Gilder* At last! Finally! What you've all been waiting for for so long! The Coleco Adam is here! Now that the anticipation period is over, it's time to get down to basics. How good is Adam? Find out in the first hands-on review from *EF* **60**

Game Reviews

HITS & MISSILES George Kopp does some fancy biking in *Quest for Tires*; Randi Hacker gets so into *Enchanter*, you could blorb her with a spoon; Robert Alonso risks cavities in *Candy Bandit*; Michael Blanchet gets out of the Frygar pan and into the fire in *Dig Dug*; Charles Ardai takes on the *Survival Run* of the fittest; Michael Brown finds that *Standing Stones* gather no moss; George Kopp tries to become *Mountain King* of the castle and becomes a gate crasher in *Mogul Mania* **38**

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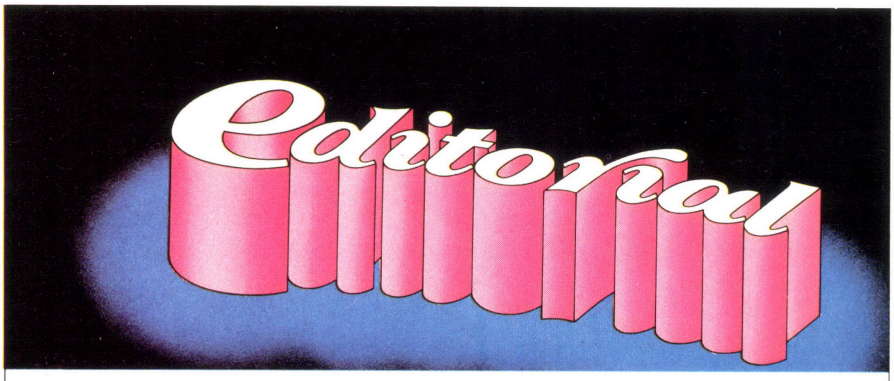

A home is not a lair

We've been talking about Coleco's Adam for a long time now, and we've been waiting for our chance to actually get our hands on one. The chance has finally come, and no matter what you may have read about Adam already we doubt that you've seen as comprehensive a review as the one we give you in this issue.

You probably know that Coleco has acquired the home rights to Dragon's Lair, *the laserdisc arcade hit. They say they'll be coming out with an interface device to hook up between your ColecoVision (or Adam) and a home laserdisc player in 1984. (Those have been available for some time from Pioneer and Magnavox.) All this plus a* Dragon's Lair *videodisc should give you* Dragon's Lair *at home.*

If this interface device does become reality, who knows what other laserdisc games may be available for home play in the future? We could make some guesses, based on what we saw at the AMOA arcade show in New Orleans. You can read all about the latest lasers this month.

This issue also marks some firsts for EF. *We're doubling the number of* First Screening *programs and we're initiating our new campus reports. Several times a year we'll travel to our best colleges to see what they're up to in the way of computer training. First stop is Columbia University in New York City.*

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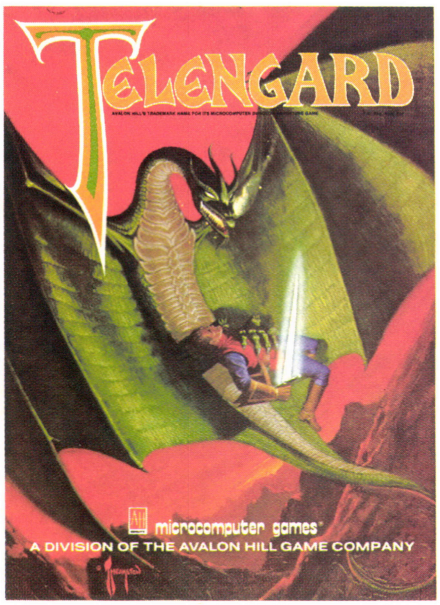

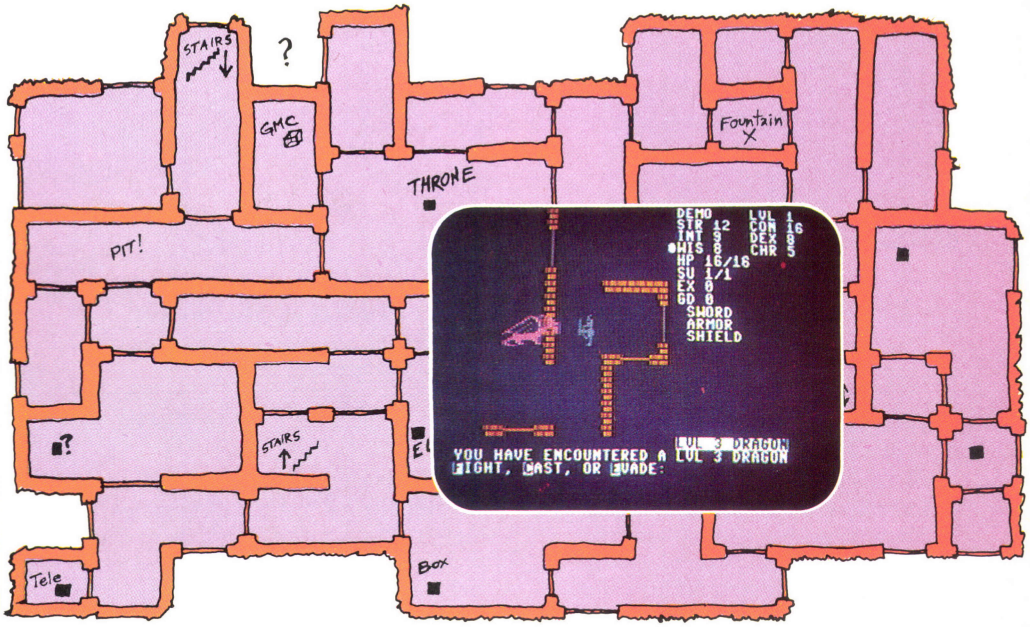

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T.G.I.F.: Thank Goodness It's Friday! Avalon Hill's new party game for one to four players recreating an often-not-so-typical week in the lives of the working class. Half the fun is just making it from Monday to Sunday. Commodore 64, Atari Home Computers (40K) cassette for a meager $20.00. Atari diskette (48K) for $25.00.

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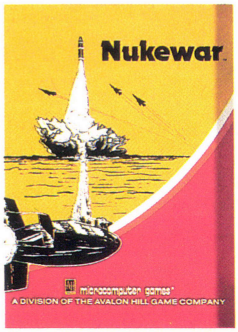
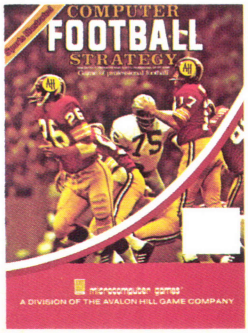
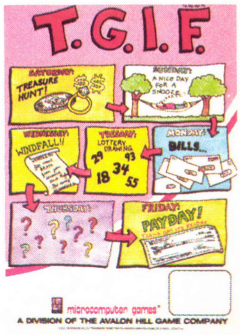


AH QUALITY

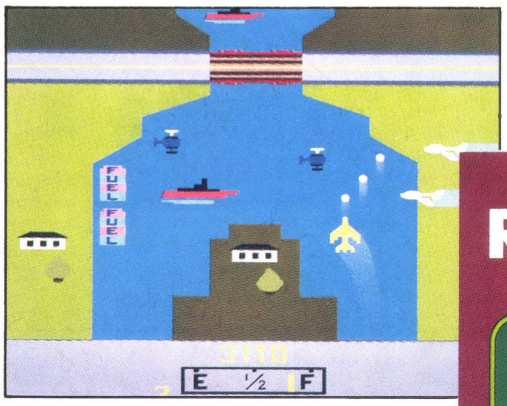




letters

SEPTEMBER'S BEST

I'd like to compliment you on your September issue. The reviews of *Mission X*, *White Water* and *Buzzbombers* were very true, the interview with Carol Shaw was sensational, and the keyboard feature was also very neat! I used to be a faithful *Electronic Games* fan, until I realized that they mentioned Intellivision a



total of ten times in their past four issues—including reviews, questions and top scores—while in your September issue alone you mentioned it fourteen times. I'm now planning to subscribe to *EF*, and I hope you continue doing reviews on Intellivision cartridges in the future. They're stupendous!

Alex Bresette
Kansas City, MO

GIMME EVERYTHING

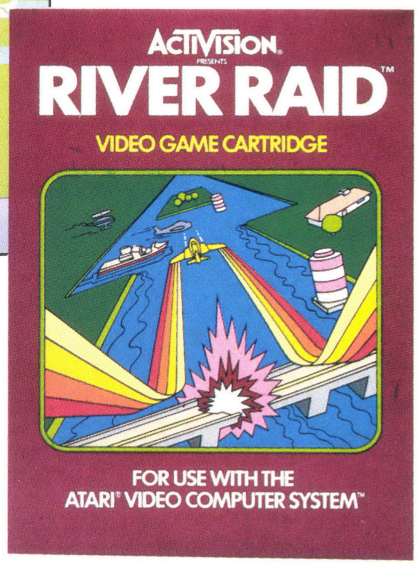
My favorite sections of your magazine are the Hits & Missiles and Computer Workout. I saw your article about the Mattel Aquarius computer in the July issue, and I was wondering if you could send me a list of *all* the equipment and software for it. I have to know. By the way, I'm sick of reading about ColecoVision; it makes me barf! Keep up the good work and please print this letter.

Jay Smith
Ft. Worth, TX

Whenever you're interested in detailed info like this, you should look to the company first, Jay. Try writing to Mattel at 5150 Rosecrans Ave., Hawthorne, CA 90250.

MARIO MARRIED?

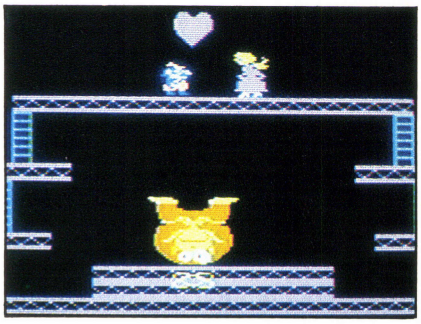
Some of my friends told me that there was a marriage between Mario and



the girl in *Donkey Kong*. Is this true? If so, how far do you have to get in the game to get there?

Kevin Cooper
Lithonia, GA

Gee, we didn't even know they were engaged. Actually, Kevin, it's more like a happy reunion than a wedding: Mario and Betsy just get together and a little red heart appears over their heads. You can see it at the end of the very last screen of the arcade version and in the Coleco Super Game (shown).



THE OVERSEAS DESK

I read in the October Letters column that you might expand the First Screening section if enough readers requested it. Well, here I am! I own an Atari 800, but the programs I write aren't good enough, so I always buy *EF* to see what kind of programs I can find for my computer. I also buy *EF* because it has valuable information about computers and video games. I'm hoping more readers request a First Screening expansion.

Luis L. Perez
Panama City, Panama

Well, another country heard from! Thanks for taking the time to write, Luis, and for your information we're getting lots of letters urging the expansion. Anybody out there have suggestions about which computers you'd like to see included on a regular basis?

Write to us! We can't promise that we'll answer every letter, but we will read them all. We welcome your comments, advice and questions. Send your letters to: Electronic Fun, *350 E. 81st St., New York, NY 10028*

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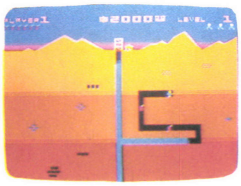

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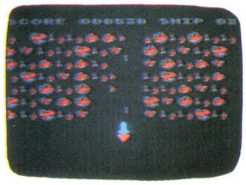

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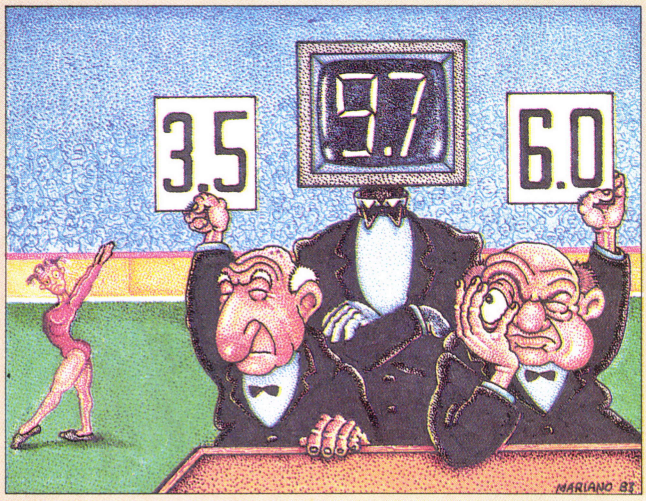
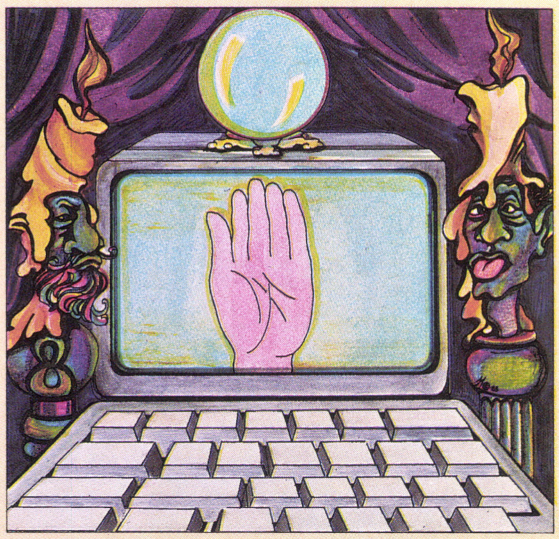
The Keyboard of Education



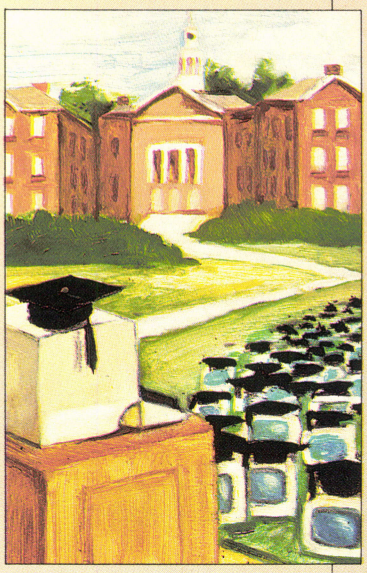
Here come the judge

The problem with people is that (with a few exceptions) they're human. This means that they have likes and dislikes often based on totally irrational things. This, in turn, means that when one person is judged by another person, the trial is subject to subjectivity, if you get my drift. This sort of thing can also occur in judging sports. So some folks are considering replacing the human element with computers. According to International Resource Development, an independent consulting firm based in Norwalk, CT, "the implementation of such systems could serve to eliminate many of the controversies that have arisen" at sports events such as the Olympics. Computerized scoring could be most useful in events such as gymnastics where subjective judgements are often the cause of arguing and fisticuffs. According to IRD, it could also eliminate problems such as a judge from one of the soviet countries scoring a soviet gymnast higher than she deserves based on her politics. The press release heralding the computerized judge also stated that computers would eliminate creativity in some scoring. This could be alleviated by introducing the human element into judging. One great leap forward for computers, followed by one great leap backward.

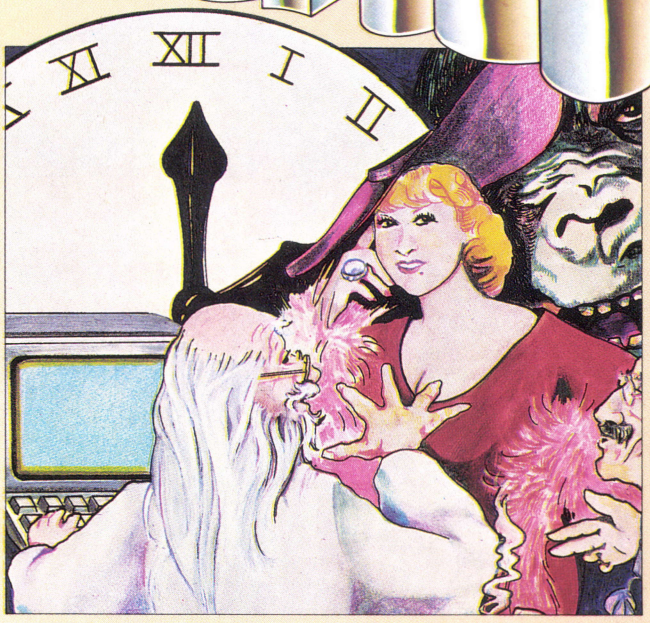


Commodore rising

A lot of people would argue that only the celestially gifted can write a good horoscope. But all it takes is a good ear for rhythm. For example, an adequate horoscope seems to consist of one long vague sentence followed by a pithy, short sentence, e.g., "Look for opportunities where they are most likely to be found. Beware of men in see-through raincoats." But even the ancient art of astrology is not safe from the effects of the computer revolution. Apparently, computers are becoming more and more popular among the astrological set. This was discussed in detail at a recent meeting of the National Council for Geocosmic Research. There, astrologers got together and discussed the merits of many of the on-line-to-the-cosmos software programs available to astrologers. There are the programs that are, for instance, being developed by Astro-Graphics Services in Massachusetts and those by Matrix Software which are published in Ann Arbor, Michigan. AGS produces a program called Astro-Scope which generates computerized horoscope printouts much like the ones in daily newspapers. It also produces more advanced programs that utilize Van Flandern and Poulkinen's orbital elements. (There's never a day that goes by when I don't find some use for orbital elements.) Some of the newer AGS titles include Astrologer Database Management System, Solar & Lunar Returns and Astro Star I, Uranian Version (soon to come the Venesion, Martian and King James version). All this will inevitably lead to the discovery of a new constellation: Nerd, the Celestial Number-cruncher.



Stitches

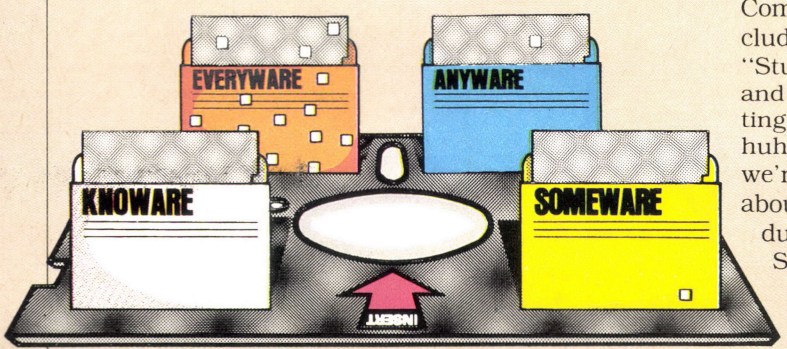


CPU (Compu ter Program University)

A lot of the problem with going to school is deciding what to wear. The whole wardrobe problem is eliminated if you go to school at home using a computer. Software Academy of San Diego, CA has come out with what they say is the first successful simulation of an entire school semester from course enrollment to graduation. This is called the *CP/M 3T* and the package teaches and tests students on the CP/M operation system and its commands. After loading a disk in the drive, the student is offered a course brochure. After registration (no sleeping on the steps of the administration building to ensure getting into a specific section is necessary), topics are chosen from the main menu. At the end of each interactive session, students are asked whether something needs to be repeated or whether to go on to the test. After the test, students are notified whether or not they passed or if they've got to repeat something. This could in time expand: entire college curriculums will be done at home. The only real difficulty we can foresee will be in football games, particularly if the rival school isn't on-line. They'd have to watch what plays would be put into action on a computer screen and then play by themselves defensively. Boola, boola.

Knoware in particular

Many of the words used in compubabble are veritable engraved invitations to punning. Take ROM, for example. There are hundreds of puns there. Hint: if you can't think of any, try substituting ROM for "room" in any famous sentence. Up to now we thought that punning was the bailiwick of those whose job it was to come up with catchy headlines. But noooo. Certain companies have taken to creating serious products with less-than-serious names. Case in point, Knoware. Knoware is a disk that teaches novices how to use a computer without resorting to complicated manuals. The disks use a game-like format. You are a mail-room clerk who works his/her way up by completing certain "tests" at the end of each section. Company slogans will include such great puns as "Students, businessmen and homemakers are getting Knoware fast!" Cute, huh? But not as cute as we're about to get. What about even punnier products? For example: Someware, a color graphics program, compatible with a few systems that could utilize the slogan "Someware over the rainbow." Or Everyware, a universally compatible disk, slogan: "Everyware that Apple used, PC was sure to follow." And finally, Anyware, a system so confused that it isn't sure what it runs on or what it does. Slogan: "If it's nowhere, it's Anyware."



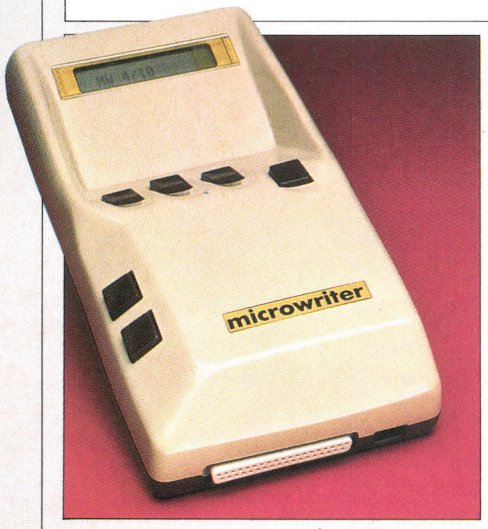
The time of your life

Here, at last, is a program that *does* windows. Called *Window in Time*, this computer program can take any date in most of history and tell you significant facts about it. For example, take the prehistoric year of 1949. You could find out that a one pound loaf of bread cost 14 cents, a half gallon of milk, 42 cents, a new Ford, $1,500. The most popular song was "That Lucky Old Sun" sung by Frankie Lane. All the historical information was researched by Mary Haggerty and her 17-year-old son Michael did the programming. It's all on an 8-inch floppy disk and was conceived as a gimmick for county fairs. If you're interested, *Window in Time* can be reached at PO Box 53483, San Jose.

Illustrations: John Mariano, Tom Nuberry, Kim Uhler, Pat Kinsley

new products

Five-finger exercise



MICROWRITER

Word Processor $499

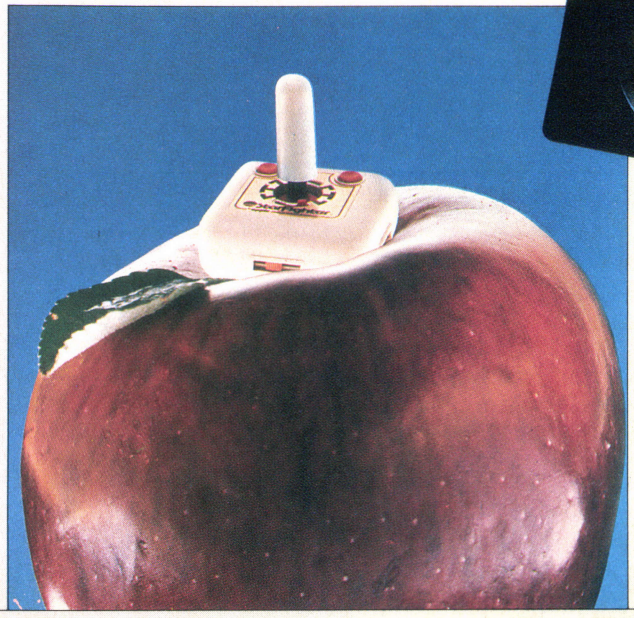
All those people who have never learned how to touch-type and have worried that, due to the rising popularity of word processors, their own personal apocalypse was at hand, need worry no more. Now they can word process to their hearts' content without ever having to memorize the QWERTY keyboard. Microwriter has introduced an entirely new concept in word processing. It utilizes a five-finger keyboard. The letters are formed using a unique shorthand pattern which, in an abstract way, corresponds to the shape of the letter being typed. According to the company, within hours users should be able to touch-type the alphabet, numerals and punctuation. Microwriter has a powerful text editing system and its own 16-character LCD display and can interface with any printer. It also connects to most home computers and it's small enough to fit in your hand.

Microwriter Inc.
17 East 71st St.
New York, NY 10021

SUNCOM

Apple and Coleco Controllers
$49.94, $39.95

An Apple joystick in the hand is worth two keyboards in the bush. Or something. And here's another Apple-compatible joystick for your gaming pleasure. Suncom's Starfighter is an analog controller which includes dual left/right firing buttons, laser-trimmed centering adjustments and a hi-lo throw sensitivity switch. Suncom also has a new joystick for the ColecoVision systems designed to completely replace the controller that comes with the unit. It has its own built-in keypad so none of this switching back and forth is necessary. The

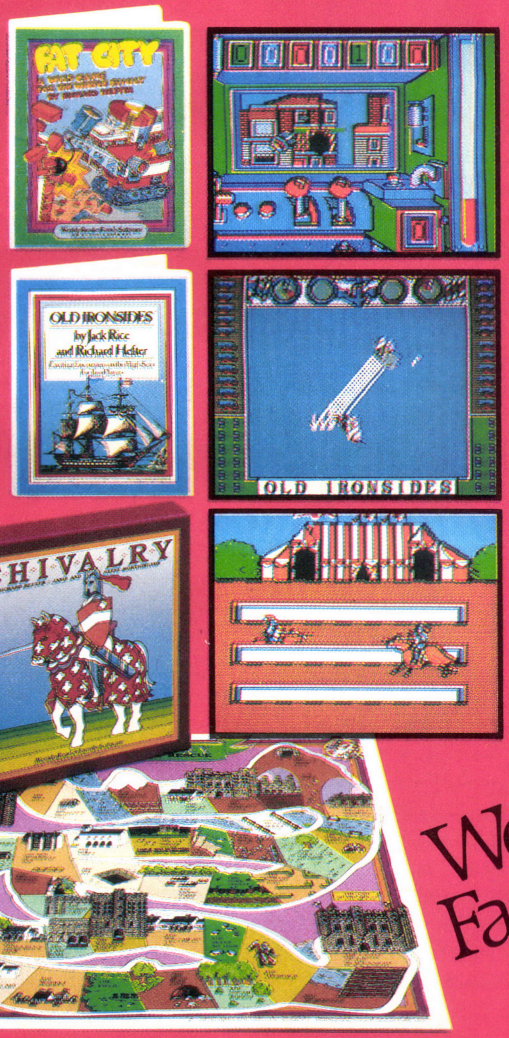


Joy-Sensor has no joystick at all, in fact, but utilizes a touch sensitive panel to control on-screen objects. Features include a round direction-sensor panel, dual firing sensors and a center positioned rapid-fire sensor surface. The Joy-Sensor is also compatible with Adam.

Suncom
650 Anthony Trail, Suite E
Northbrook, IL 60062

WRECK'EM RAM'EM RESCUE'EM

3 Thrillers for the game players in your family!



For the Apple® Personal Computer. Developed by Optimum Resource, Inc. for Weekly Reader Family Software, all 3 games are available in finer computer stores everywhere. Or call toll-free 1-800-852-5000. Dept. AC-5.

Fat City™
Knock down buildings in your wrecker while dodging bricks, rocks, cans and tomatoes. 10 rounds. Poster, stickers, user's manual, vinyl binder included. Ages 8 and up. Only $39.95.

Old Ironsides™
Thrilling 2-player naval battle! Use the wind, cannons, compass to outwit rival ship. Detailed graphics recreate true sailing experience. Poster, log book, vinyl binder included. Ages 8 and up. Only $39.95.

Chivalry™
The days of yore are recalled in this unique combination of board-game and computer game. Rescue the king by playing 20 animated games of skill — jousting, sword-play, etc. 1 to 4 players. Sturdy, colorful gameboard, playing pieces, poster, instructions. Ages 8 and up. Only $49.95.

Chivalry, by Richard Hefter and Steve and Janie Worthington: *Fat City* by Richard Hefter and Steve Worthington, and *Old Ironsides* by Richard Hefter and Jack Rice are registered trademarks of Optimum Resource, Inc. Apple and Apple II, IIe, II+ and III are registered trademarks of Apple Computer, Inc.

A/M28-M5

Weekly Reader Family Software

A division of Xerox Education Publications
Middletown, CT 06457

E.F.C. Times

VOLUME TWO, NUMBER FOUR FEBRUARY, 1983

LUCAS FIGHTS DARTH INVADERS

Star Wars *creator and* Star Wars *creation*

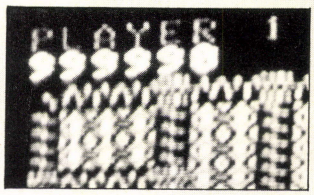
George Lucas was probably wishing that The Force would be with him when he sat down to play Atari's *Star Wars* game. The popular arcade game was presented to Mr. Lucas at Lucasfilm Ltd. headquarters in Marin County, CA and was also featured at the AMOA trade show held in New Orleans in October. For all the hottest news from AMOA, see William Michael Brown's article in this issue.

I Go Pogo Joe

You've heard of the $64,000 question? Well, here's the $10,000 question. Or rather questions. Screenplay Software is sponsoring a contest that could net you a cool ten grand if you simply answer one of two questions about their *Pogo Joe* and *Asylum* games. In *Pogo Joe* you've simply got to reach the tenth screen and find the secret word while in *Asylum*, the answer is hidden in a mirror.

To enter you fill out an entry blank. They are available in every Screenplay game or from dealers that carry Screenplay software or by sending directly to the company itself. Winners will be determined by random drawing and two lucky people will win $10,000 apiece. Although entry forms will contain both questions, only one can be answered per form. Entries must be received no later than June 1, 1984. Drawings will be held on June 30. For more information contact Becky Osburn (800) 334-5470.

Monthly Contest



The winning score

EF would like to report a first. Yes, gang, *Pepper II* was the first monthly contest which brought young women out of their shells. Because we got so many entries from them, as well as young men, we're giving out two gender-specific awards. The winners, picked in a drawing from among the many high scorers, are Yolanda Regalado and Richard Hyjack. Congratulations!

This month's contest is *Joust* for either the 5200 or 2600. Please write your name, address, phone number, score and the cartridges you want on the back of the picture. Send them to *EF*, Monthly Contest, 350 E. 81st St., New York, NY 10028, by February 15, 1984.

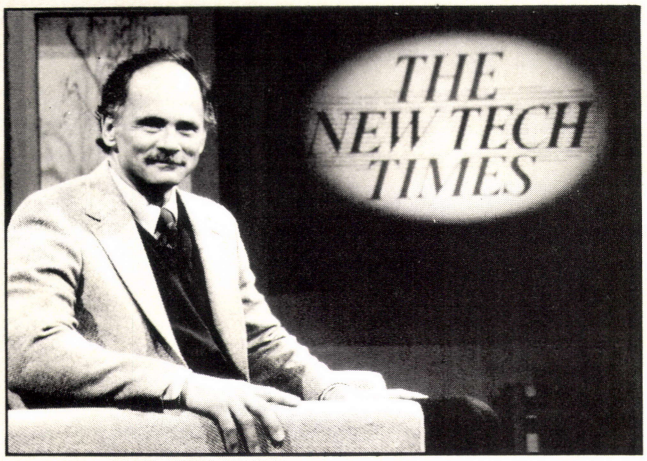
INTERFACE THE MUSIC

Although there are no black keys on a computer keyboard, that shouldn't stop you from composing music on your computer. There are any number of musical programs available from several software companies and now CBS Software is coming out with one, too. Put together in conjunction with the Dovetail Group, the CBS programs will feature animated characters known as The Jazz Scats and will utilize the capabilities of computers for the composition of original music as well as gameplay. The Dovetail Group has developed musical video productions and computer software. Gerri Brioso, the president, is a five-time Emmy Award nominee for graphics and music and a 1983 Emmy Award winner for graphic design in children's programming for her contributions to *Sesame Street*. Programs should be available early in 1984.

The Dovetail Group

E.F.G. Times

SEEMS LIKE NEW (TECH) TIMES

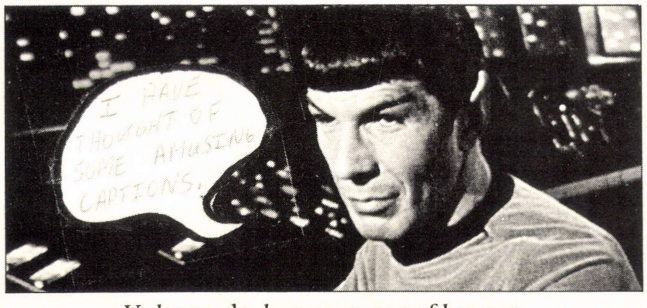


Nicholas Johnson, host of New Tech Times

There's no lack of magazines out that address the new technology of computers, games, phones, VCRs and so forth. What there is a lack of is TV shows that deal effectively with this revolution. Now there's *New Tech Times*, a show broadcast on PBS. *New Tech Times* is presented in a magazine format and deals with such topics as what to do once you actually take the plunge and buy a home computer, special effects for movies done by computer, computer software for the home, how to exercise electronically and video piracy. The host of the show is none other than Nicholas Johnson, the former Federal Communications Commissioner and a national columnist on telecommunications. Guest columnists include Peter McWilliams, author of *The Personal Computer Book*, Danny Goodman, contributing editor for *Radio-Electronics, Personal Computer World* and *Creative Computing* and Michael Blanchet. In addition, commentators and other guests will include people like John Naisbitt, author of *Megatrends*. The first show aired October 13 at 9:30 pm EST. Check your local listings for times in your area.

Captions Courageous Contest

We knew we had a lot of wise guys among our readers and this was proven by the number of very clever responses we received for our Caption Contest which ran in the October issue. After much helpless laughter and a good deal of sound, rational rumination, we finally decided on a winner. His caption is printed below the picture we ran originally. (Is that perfectly clear?) William Sommerwerck of Lancaster, PA is the proud recipient of a year's subscription to *EF*. Congratulations, William.



Vulcans do *have a sense of humor*

We also decided to give a year's subscription to Mr. Spock (see above) who sent in the most amusing postcard entry. The subscription will go to his human correspondent, Kurt Donaldson of Dodge Center, MN. In addition, a hearty thanks is extended to the Evil Dentist of Richmond, Staten Island for his very amusing but unprintable entry.

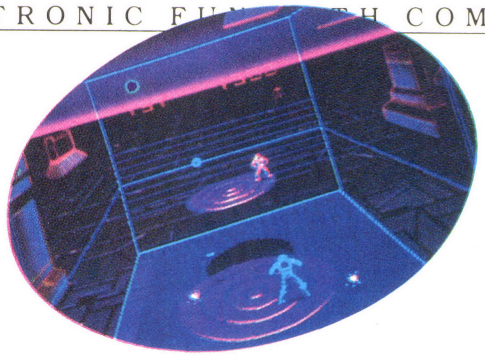
Bride of Wozniak

Department of Corrections

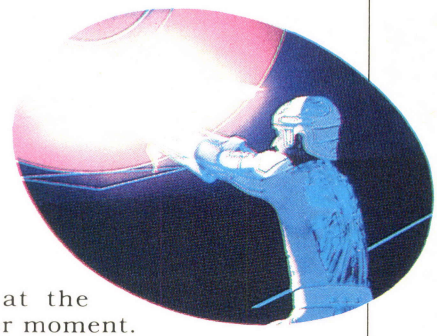
We received a rather apologetic letter from Les Coe, author of *Dragon Maze*, the First Screening program which appeared in our June issue. He says he's very sorry but, by mistake, he sent us an incomplete program for the game. This should explain why so many of you had trouble making it work. The missing lines which, once added, should make the game work are:

420 MRO = MR
421 MCO = MC

Have you got an item for the EFG Times? News events, game tips, photos and other information are gladly accepted. Send material to EF, *350 E. 81st St., New York, New York 10028.*



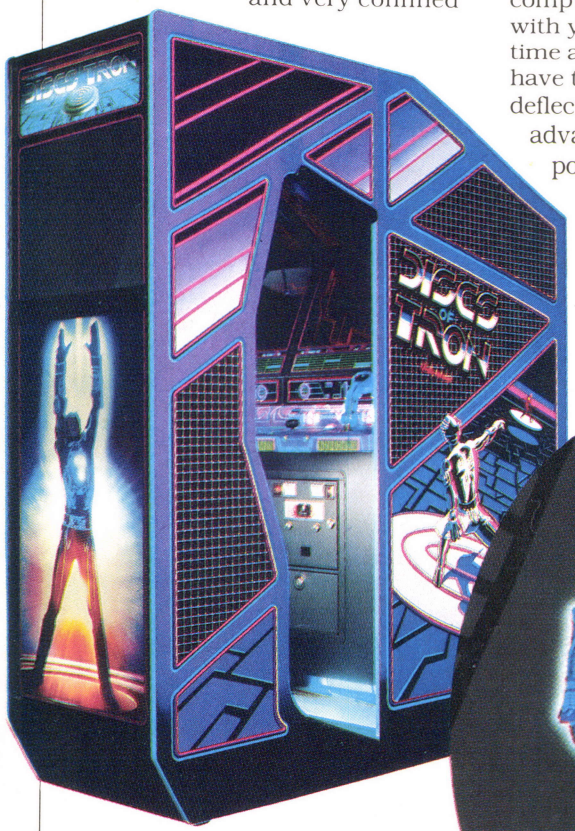
Discs of Tron, Mach 3:



By Michael Blanchet

DISCS OF TRON

Discs of Tron reminds me of a game I played as a kid; my friends and I called it Frisbee Fight. The game itself was simple. We were allowed only to move within a set and very confined area. Each side consisted of three players; two throwers and a retriever. One thrower tossed frisbees at the opposing thrower, while the retriever scooped up the discs that landed outside of the battle zone. For shields we used garbage can lids. Once one side had scored ten hits on the opposition, the game was over. Our strategy: throw straight and duck fast.



And so it is with *Discs of Tron*. All you can really do here is get out of trouble's way and throw with accuracy.

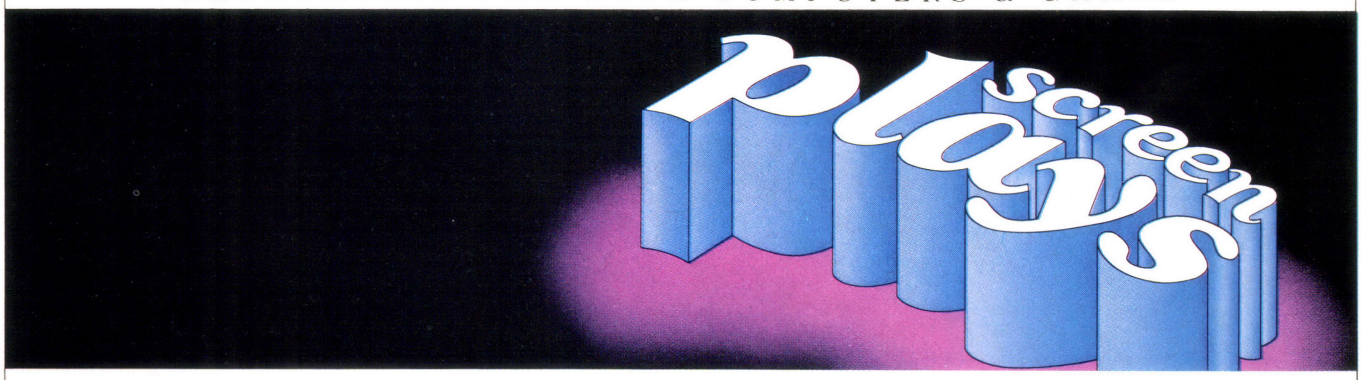
The object of this game, as it was in our contest, is to hit the computer-controlled player, Sark, with your discs while at the same time avoiding his. Defensively, you have two options—either move or deflect. Offensively, you enjoy one advantage we never dreamed possible in our game: you can bounce your discs off the playfield walls.

Your character, Tron, is joystick-controlled. Jumping from platform to platform is automatic—just move him either left or right and he'll leap at the proper moment. Discs are hurled (up to three at a time) by a tap of the trigger. To your left you'll find a knob which is used to aim your discs. The natural tendency among beginners is to position the crosshairs directly on Sark and toss away. You might get away with this once or twice but not much more. Sark is smart and you must be smarter. Unfortunately, I cannot tell you the exact spots to aim for when attempting a bank or rebound shot. This is something you must discover yourself, and the best time to practice is the first round.

Disco Volante

If you prefer a full frontal attack to the subversive flank assault, do this—aim the first disc to Sark's left, the other to his right. Most times he'll react to one and move into the other. It's important to throw in pairs only, always making sure to have one disc in reserve for defensive emergencies. Certain items Sark will throw out at you can be destroyed by one of your discs.

My best defensive advice is to simply keep moving. When three platforms are present run back and forth constantly, spraying your opponent as you go. This will keep him off balance because as soon as he throws, you're gone. Of course, running isn't possible when only one platform is present. In this situation, be quick to attack and use your deflectors. They're often useful to set up Sark's shots for a defensive throw, and since you have seven of them—use them.



The laser man's game

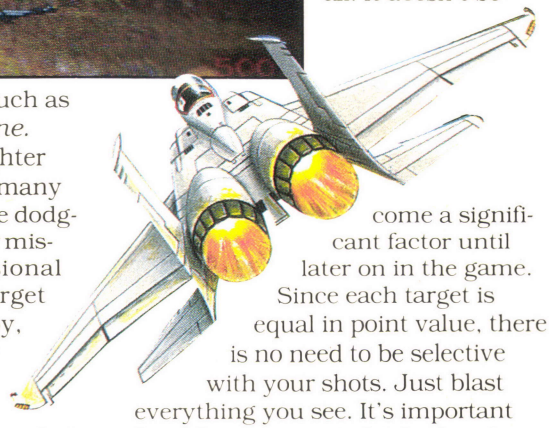
M.A.C.H. 3

If you want to win at *M.A.C.H. 3*, first try to forget that it's a laser game. Of course, it *is* a laser game, but not in the same sense as *Dragon's Lair*, where all the images and situations come directly off a laserdisc. *M.A.C.H. 3* is a hybrid—a combination of computer-generated visuals and laserdisc backgrounds. The computer images are where the action is, and the photographic scenery is just that—scenery. So forget all the habits you formed on *Dragon's Lair*, and play this one the same way you would any other standard video game (if you need more help, try looking at it as a fancier version of *Buck Rogers* or *Xevious*).

M.A.C.H. 3 offers you a choice of two games—the fighter plane scenario or the bomber flight. The fighter mode gives you a view of your jet from behind; in the other setup, you view your bomber from above. But while both games have "you" on the screen, you're better off approaching it like any other first-person contest, such as *Star Wars* or *Battlezone*.

The object of the fighter scenario is to blast as many targets as possible while dodging enemy surface-to-air missiles and fire from occasional choppers. Each ground target appears briefly as you fly by, enclosed in a yellow box. There is a small crosshair sight that will appear in the air slightly above the cockpit of your fighter, but you'll find that it always deflects slightly from the true path of your missiles every time you shift position with the joystick. So don't depend on the crosshairs; basically, you should just try to line up the front of your jet with the box and then fire a missile. Missiles can be launched up to four at a time by pressing either the joystick-mounted button or one of the side buttons. This is a matter of personal preference, of course, but you'll probably find the side buttons a lot more comfortable and quicker to use than the joystick button.

Your jet is steered with the joystick and responds in a manner consistent with the way real jets fly: pulling back on the stick will increase altitude, while a dive is initiated by pushing the controller forward. Don't worry about flying too low. You won't crash. In fact, don't concern yourself with altitude at all. It doesn't become a significant factor until later on in the game.



Since each target is equal in point value, there is no need to be selective with your shots. Just blast everything you see. It's important for safety reasons to hit both radar towers and gun emplacements whenever possible. The few times I passed these up, I was quickly greeted with a barrage of enemy fire and choppers.

Speaking of choppers, confront them as soon as they appear. Position your jet directly in front of one while depressing the trigger. This releases a constant stream of machine gun fire which usually provides adequate protection from the

Continued on page 75

Input Output

More memory for your money

Is there any way you can buy expanded memory for an Atari computer?

Sean Morden
Saugus, CA

Mosaic Electronics (P.O. Box 708, Oregon City, OR 97045) makes one of the best expansion systems we've seen for the Atari 800. The hardware costs about $230, is simple and actually fun to install, and you end up with a 96K Atari (if you use the "Select" memory board; more if you use other boards Mosaic can supply).

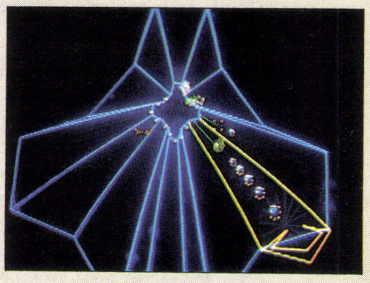
Does the Timex/Sinclair 2000 color computer have a flat keyboard? Can the TS-1000 software run on the TS-2000? Where can I get more information on this fantastic new computer?

Marcus Wilhoit
Landover, MD

It's now called the 2068, and it does have real keys—as you'll see if you take a look at Jules Gilder's workout with the 2068 elsewhere in this issue. If you still need more information after reading his review, try writing to Timex Consumer Affairs, 1579 Strait Turnpike, Middlebury, CT 06762.

I played TEMPEST in the local arcade a few weeks ago and since then it has become my arcade favorite. I own an Atari 2600 and I was wondering if they are going to make a home version of this great arcade game.

Paul Freed
Bend, OR



We've got some good news and some bad news.

The good news is that Atari *is* planning a home version of *Tempest*. The bad news, for you at least, is that there won't be one for the 2600: it will be designed for the 5200 and should be available sometime this year. Sorry, Paul.

I sent in my $6 to the Coleco video game club months and months ago and still haven't heard a darn thing from them! What's the deal here? I'm depending on you guys; remember, you said in your Letters column awhile ago that you'd investigate the problem.

Craig Bostalle
New Paltz, PA

Right you are, Craig. We talked to Ms. Cheryl Steele in Coleco's marketing/communications department, who admits that there have been some problems with filling new club membership orders; part of the problem is that so many people are joining the club, it's nearly impossible to keep up. Cheryl asks new members to remember that the club magazine is a quarterly, not a monthly; so it may take a few months for you to get your first issue even after you're registered as a member. But if you're *still* having problems, write directly to Cheryl Steele, Marketing/Communications, Coleco Industries, 999 South Quaker Lane, West Hartford, CT 06110, and

she'll take care of you. If you've written before, you can also call her collect at 203-725-6437.

I plan on buying a computer in the next few months, and I wrote away to Commodore for information. They sent me a brochure on the computers they make, one of which was something called the C-128-80, which I had never heard of. What's the story on this computer?

Gordon Bett
Oakville, Ontario

The latest word is that the C-128-80 has been discontinued. There are two reasons this may have happened. One is that Commodore may not feel the market is ready for it now and the other is that perhaps the rumor about a Super-64 is true. The Super-64 is supposed to be a 128K version of the Commodore 64. This rumor is unconfirmed, but we'll keep you posted!

I'm 13 years old and just got a Commodore 64. Is there any kind of information line, group or book I can get that would help me with it? The book that came with it hardly made sense, and I and a few of my friends need help.

Steve Jones
Galax, VA

Give the book another shot, Steve—we've found most Commodore publications to be helpful and well-written guides to the ins and outs of what can, when you first open the box, seem like a very complicated machine. If you're still having trouble, though, we'd recommend joining the Commodore Computer Club (write to them at 1200 Wilson Drive, West Chester, PA 19380). The CCC publishes a newsletter where members can get their questions answered by Commodore experts, and your $10 CCC membership fee also entitles you to special prices on a wide range of the company's products. They can probably direct you to a user's group in your area, and you can also order two very useful books from them: *Zortek and the Microchips* (an entertaining guide to computing, written for young people in simple language) and *Introduction to BASIC* (a two-part, painless guide to programming in BASIC that includes a self-instruction cassette and book in each section). Each book costs under $20, and they're also available in most computer bookstores and Toys R Us outlets. Commodore itself maintains a Consumer Hotline that will answer just about any kind of question you can come up with. (215-436-4200; be patient, the Hotline gets a lot of use). And if you own a VIC Modem (it fits the 64, and is available for under $100 at the same place your 64 came from), you can join CompuServe and get on the Commodore Information Network which gives you access to the same Hotline mentioned above.

Can you tell me if I can use the Timex/Sinclair 1016 RAM memory expander (for the TS 1000) on my VIC-20?

Mario Contestalile
Montreal, Quebec

Mario, it isn't possible to use the 16K expander that you have for the Timex computer on the VIC-20. The reason for this is that the Timex computer and the VIC-20 use different microprocessors and therefore the RAM expander is arranged in a way in which the Timex can read it, but not the VIC. Another reason is that the expansion ports on the Timex and the VIC are of different lengths.

Correction: In November, Input/Output told Brian Waytink that, to our knowledge, there were no tape cassette-format text adventure games available for Atari computers. We've since learned that all 12 of the Scott Adams Adventures series from Adventure International are still available on Atari computer-compatible cassette. Some of the series are text-only adventures, and others contain both graphics and text. If you need more information or are having trouble locating the games in your town, you can write Adventure International at Box 3435, Longwood, FL 32750.

Do you have a question about video games or computers that needs answering? Send your questions to: Electronic Fun, *350 E. 81st St. New York, NY 10028.*

FIRST ANNUAL HALL OF FUN

If Mohammed won't go to the mountain, then the mountain will go to Mohammed. Well, that's not exactly how the saying goes but it's more pertinent. If you couldn't come to the *Electronic Fun* Expo and Hall of Fun awards, the *EF* Expo etc. will come to you. Here are some excerpts from what proved to be a very exciting weekend for *EF*.

1) There's more than one way to save New York as Mayor Koch found out during the opening ceremonies. Creative's game was there being demonstrated by *EF* reviewer, Noel Steere. 2) The Effies, our awards. Malcom & Hayes, the casters, brought them all to Tavern on the Green in the nick of time. 3) A Mayor can not only look at a king but talk his ear off. The King was one of the paraders. Others included Mr and Ms Pac-Man and Donkey Kong. 4) Riding high at the New York Coliseum. 5) All the Hall of Fun Ballots were thrown into a hat and one name was drawn. Ronny Siberg (left) and his science teacher, Mike Wichmann, were flown in from Minnesota to attend the festivities. 6) The winners in all their glory. 7) This simian enthusiast took the term "monkeying around" at the Expo to new heights. Here he visits his video counterparts at the Coleco booth. 8) Never-before-published photo of the Unknown Arcader seen here with Randi Hacker 9) George Kopp, master of ceremonies.

readers tips

MAZE-A-TRON

In the Intellivision game, if you need a break but don't want to lose your score, simply enter a flip-flop with a deactivated Recognizer on the screen. The direction will continue to change, but without going anywhere.

Rich Caputo
Pleasant Valley, NY

KANGAROO

On round two, after the second ladder, don't jump for the fruit. When you jump on the platform you'll automatically get the fruit.

Kelly Flannery
Villa Hills, KY

STAR TREK

When you first start out, dock with your star bases. This will increase your shield strength, photon torpedoes and warp drive. You'll need all those things in later sectors.

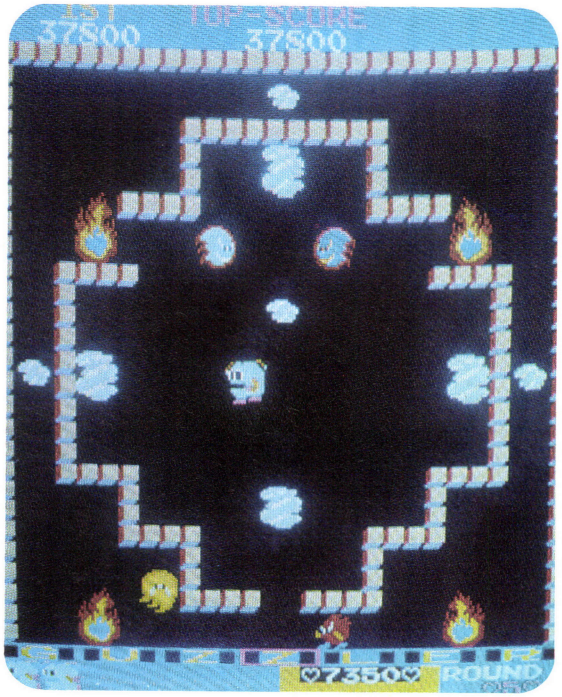
Steve Zammer
Littleton, CO

EARTHWORLD

The objects in a room all have special powers when you carry them. For example, when you carry the shield you can go right through the spears and horns, or if you carry the shoes no sound will be heard when you walk the corridor. If you give up finding the clues or tire of the game, finding out what each object does will make it more interesting, and may help you when you look for the real clues.

Mary Ann Carrado
Long Island City, NY

GUZZLER



Guzzler is a tough game, but there's one feature you can depend on to make up for your mistakes. When all your Guzzlers are dead, and the roulette-type wheel comes on with your man in the circle of fireballs: let the Guzzler in the wheel get right next to the box and slightly to the right, then push the attack button. You'll get your free man every time despite speed.

David Piccola
Fort Myers, FL

KEYSTONE KAPERS

When you're ready to get on an escalator, jump on it—you'll skip part of the ride and save time getting up there.

Bobby Seward
Winterset, IA

SWORDS & SERPENTS

This may seem dumb, but if you want to save time and lives, forget *all* treasures and spells. The more time it takes to reach the Serpent's Lair, the more lives the Prince and Wizard risk losing. Just concern yourself with getting the key to the next level. The only spell you really need is the Destroy Walls spell (located on the third level). The Serpent's Lair is on the fourth level, and you'll need the Destroy Walls to get inside the Lair.

Grover Zaborniak
Sacramento, CA

On the fourth level as you appear, there is a scroll. DO NOT READ IT. It says "To read this scroll is a fool's folly." You are then trapped in a room with no exit.

Joe Menegon
Hamilton, Ontario

Do you have a tip for your favorite game? If it's good, we'll print it in Reader's Tips. *Send tips to:* Electronic Fun, *250 E. 81st St., New York, NY 10028.*

PAY NOW PLAY LASER

Pessimists may insist that the days of wine and arcades are over but judging by the laser games and new technology we saw at AMOA, there may be life in the old game yet. Superb graphics, sophisticated animation, sleek new cabinets and controls and a series of imaginative—and suspenseful—plots all add up to what could be the dawning of a new age in the coin-op world.

INTERSTELLAR, left, gives you 40 different alien landscapes. MACH 3, below, is the runaway favorite of this arcader.

By William Michael Brown

Listen up, players: the Age of the Laser Game has finally dawned for real. Given the way time is usually measured in the video game world, we've had to wait quite awhile to hear that bit of news. It was just over a year ago, you'll remember, that Sega introduced *Astron Belt*, the world's first laserdisc coin-op. Because it was so new, *Astron Belt* had a few problems; Sega decided against an instant American release of the game, and next to nobody on these shores got so much as a chance to see it. But the news that laser games were coming traveled fast, and the excitement began to build—and was still building—when the second laser game, *Dragon's Lair*, started tearing up the arcades last summer.

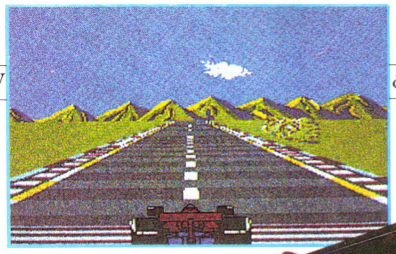
There are now no less than 13 laser games out there—and we found every one of them on display (most for the first time anywhere) and set for free play during our visit to the recent AMOA coin-op trade show in New Orleans. What we saw in the laser games was the hottest new technology around: coin-ops with multi-track stereo sound effects and concert-quality music, screen images that rival any movie you're ever seen, and—in a few cases—new, souped-up computer graphics that nearly cut the laserdisc images for clarity and realism. We came away convinced that, if they do nothing else, laser games are destined to permanently raise player expectations about how coin-ops should look and sound.

What we *played*, however, was generally disappointing. Nearly all of the laser games feature retreads of familiar game concepts like *Tempest* or even (oh no!) *Space Invaders*, played out with the usual computer-generated figures against a background of gorgeous video "wallpaper". Only four of these games still managed to play well enough to elevate them above gimmick status, and just one offered a really innovative use of laserdisc images. Of the very few new entries in the *Dragon's Lair*-style—interactive movies using stored animated or live-action images only—only one managed to come near the standards set by the granddaddy, and none improved on the original a bit.

Of course, with laser game technology still in its infancy, laser gameplay design naturally has a way to go before it can match the complexity and challenge offered by more conventional games. We also saw quite a few of those, including two that offered exciting new twists on standard-issue coin-op technology, and three or four that appear to be designed specifically for the serious arcader. There were also retreads of past hits from the same companies who put out the originals, and several games on driving and sports themes. It looks to us like lasers are going to have to share top ten dominance with the non-lasers for awhile; in the meantime, there are still plenty of hot ones—both laser and non-laser—to work out on.

We came away with four pick hits in the *Astron Belt* (stored laserdisc backgrounds with superimposed computer graphics) category: Mylstar's *M.A.C.H. 3*, Funai's *Interstellar*, Simutrek's *Cube Quest* and Williams' *Star Rider*—with

Photos: Andrea Brizzi

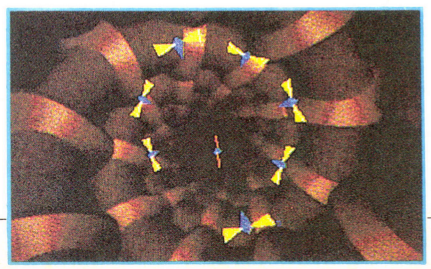


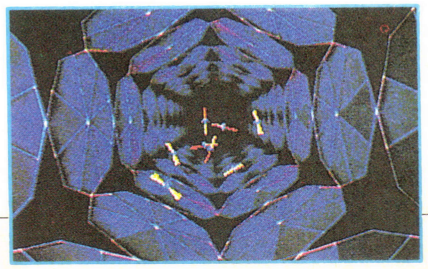
M.A.C.H. 3 the runaway favorite for hot gameplay and skillful blending of laserdisc and computer graphics.

If you haven't already sat down behind *M.A.C.H. 3*'s controls at least once, you're missing what is undoubtedly the most furious, realistic, bite-the-bullet shoot-'em-up ever produced. Using stored live-action aerial photography for backgrounds and 3-D computers graphics for ground targets, explosions, enemy fire and your own aircraft, the game offers players a choice between piloting a jet fighter (modeled on the F-15) on a strafing run against hidden targets in rugged terrain, or commanding a medium-altitude bomber over a flat landscape packed with enemy oil refineries, airfields and highways. While dodging flak in the *Xevious*-like bomber scenario may appeal to some players, it's as a high-speed/low-altitude combat flight simulator that *M.A.C.H. 3* really takes off. The aerial footage is exciting all by itself, combining a breathtaking sensation of headlong forward movement with constant visceral warnings that a fiery death-on-impact always awaits just a few feet beneath your seat. Meanwhile, ground targets are suddenly popping up and zipping past with unbelievable speed; buzzing swarms of defensive heat-seeking missiles are rising up to smash you, all of them flying in weird, corkscrew trajectories that make them very tough either to hit or dodge; distracting radio crosstalk from other pilots tries to keep you headed toward primary targets; and no sooner do you complete a sequence successfully than teams of enemy helicopters appear, firing with perhaps the most deadly accuracy of any enemy you'll encounter in the game. Try as we could, we were unable to come up with a single valid criticism of *M.A.C.H. 3*; every detail of the game—from the extra, side-panel-mounted fire buttons to the vibrating seat in the deluxe cockpit version—adds something to the overall exhilarating experience of playing it.

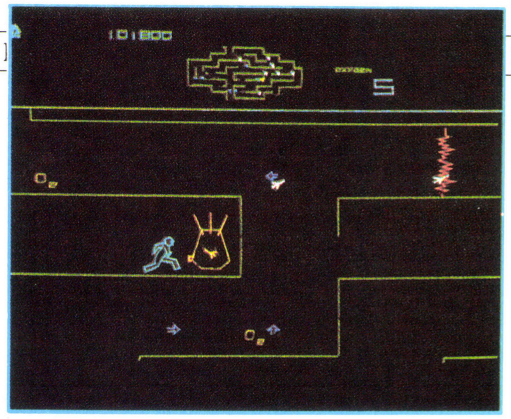
Hell's Angels go galactic in STAR RIDER whose cabinet is like the seat of a motorcycle. Above, TX-1, a driving game with three screens.

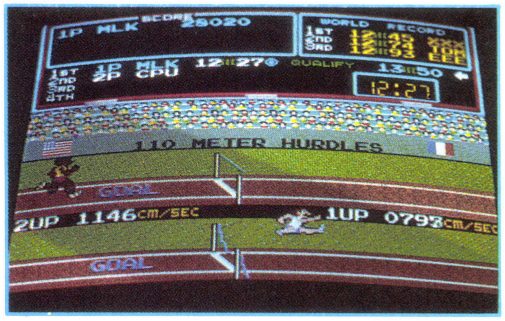
Less intense but much more beautiful to look at, Funai's *Interstellar* sports around 40 different laserdisc backgrounds depicting alien cityscapes and fantasy works, all keyed to a moody, Tangerine Dream-like synthesizer soundtrack that rates as the second best we heard at the show. The laser images (designed by Japanese computer-graphics house Gakken) are a hard-edged, brilliantly colored





Christopher Columbus may have proven that this world is round but he never played CUBE QUEST which presents you with square worlds.



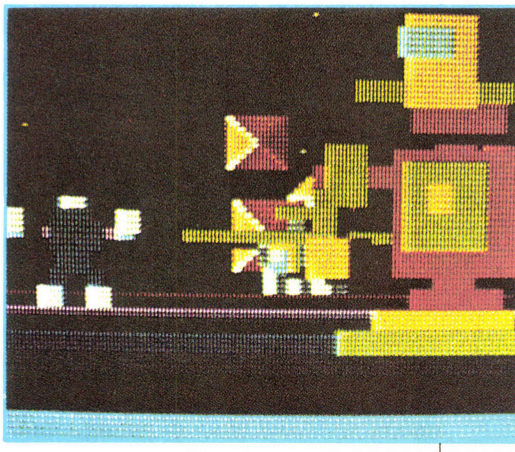


and seamless *Space Odyssey* phantasmagoria of frozen planets spinning in the void, mountainous desert landscapes criss-crossed by what look like forcefield grids, odd clusters of skeletal buildings that may or may not be spaceports, etc. Superimposed on the Welcome-to-Jupiter backgrounds is a fairly standard alien-blasting video game, modeled along *Galaga* lines but with some novel additions, such as a feature that lets you fire at different angles instead of only straight ahead, and bombing sequences that follow the alien attack runs at regular intervals. The 3-D game graphics (aliens get bigger the closer they get to you) are well done and high-res enough not to look out of place against the laser background, and the laser sequences change with next to no visible gaps. But while *Interstellar* is a fulsome trip for the eyes and ears—and fun to play just for the reward of seeing new sequences and hearing more music—the retread gameplay will probably keep it from ever becoming an arcade hotshot's delight.

Our other two laser picks rate highly partly because they're a little stronger in the gameplay department—but mainly because they seem to be the shape of laser games to come. Neither was quite finished at the time we played it, but both seem to embody exciting attempts to push the whole coin-op idea to new limits.

Williams' *Star Rider*, for instance, is a glimpse of what an arcade full of truly interactive laserdisc games would be like. A motorcycle road race vaguely similar to *Pole Position*, *Star Rider* presents you with a true first-person perspective of a highway running through some very strange and beautiful interstellar environments (with names like "Cubitania" and "Stalactica"). Seated on the game's cabinet extension and using a set of three handlebar-mounted controls, you pilot your space bike down the road as fast as you can, trying to avoid obstacles and beat out four other (computer-controlled) competitors. You're also given a laser-fed rearview mirror to keep track of the guys behind you, a forcefield guardrail to keep you from high-siding your chopper and wiping out, and a very goofy computer-generated "Robofficial" who pops up at the end of every heat to tell you how you did.

What's amazing about *Star Rider* is that none of the prerecorded laserdisc landscapes are used like wallpaper; your viewpoint actually appears to move through each environment, giving you an ever-changing perspective on it moment by moment depending on the moves you make. If you take a particular curve too fast and end up on the guardrail, you get one view; take the very same curve a little slower on your next game, and you'll only swerve into the outboard lane—and get another, slightly different view. The landscape will also scroll past at different rates depending on your speed. What it all adds up to is a driving experience as real as bopping down to the 7-11 on your Kawasaki, but set in an environment much like my old neighborhood on Phobos. If the final version of *Star Rider* (which should be out as you read this) also manages to include some quick and nasty challenges from the superimposed computer opponents, it could end up being

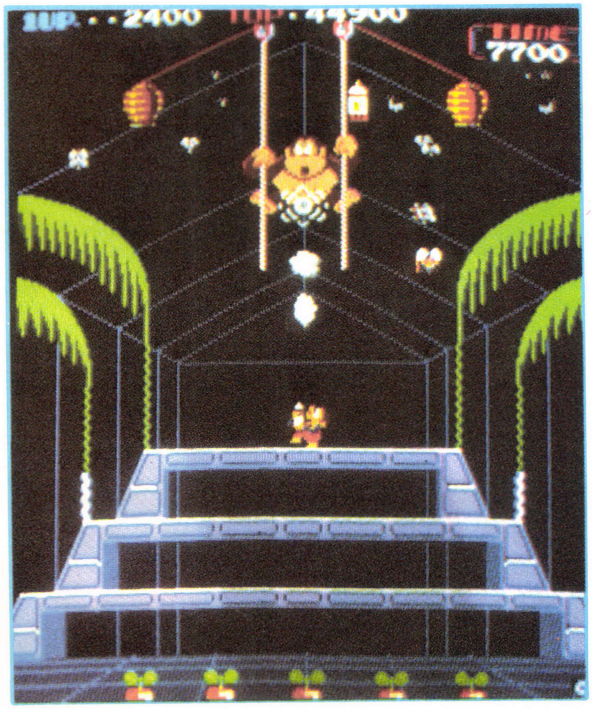


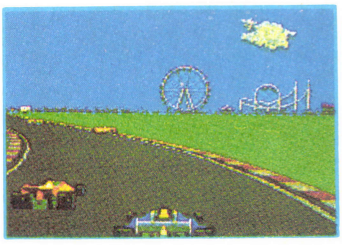
Some of the hot games at AMOA included BOUNCER (top left), MAJOR HAVOC (to its right) TRACK & FIELD (underneath twice) SPY HUNTER (above, center) and BLASTER (directly above).

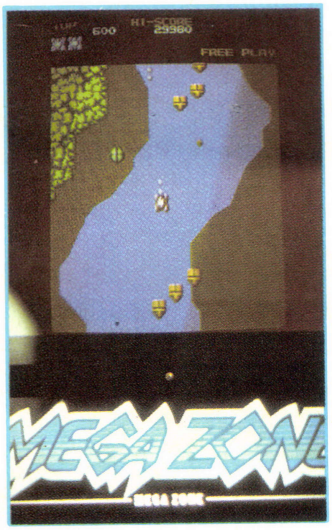
M.A.C.H. 3's main competitor.

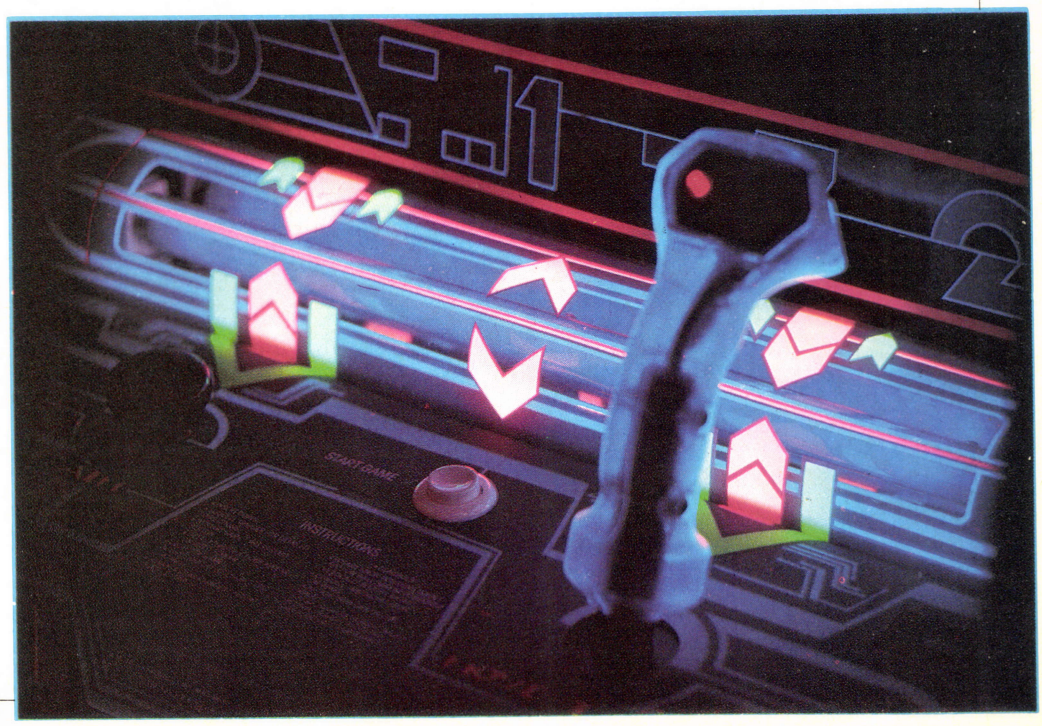
The single most innovative laser game at the show, Simutrek's *Cube Quest* is in a class by itself. Designed as a futuristic treasure hunt within a massive 3-D cube world at the end of the universe, the game is divided into alternating strategy/action sequences. The first screen gives you a radar map of the cube and allows you to choose which of its 54 corridors you want to enter via an option button which rotates a whole set of corridors in the same way you'd rotate a section of a Rubik's Cube. Once you've set your path, it's time to do battle with the natives—and Welcome to Stargate Thirteen time. You're suddenly drifting down what seems an endless tube filled with weird visions out of alien jungles, or Leonardo da Vinci's notebooks, or DNA molecules, or a host of other things I'm at a loss to describe. Each different corridor comes complete with a variegated horde of hostile alien life, which will variously shoot you, ram you or block you with huge maze-like walls that seem to grow out of their own bodies. If you can manage to shoot your way through, the cycle starts again.

Cube Quest is the coin-op world's Rolls Royce—a class act from every angle. Its laserdisc corridor sequences are the most crisp, clean, detailed and imaginative we saw at

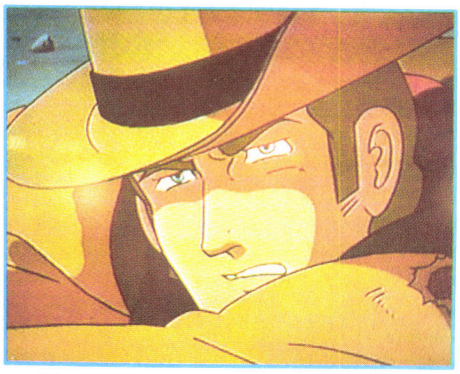






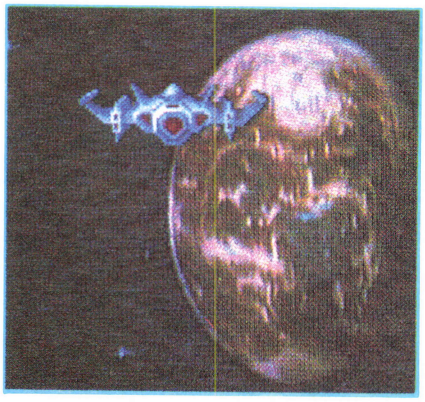


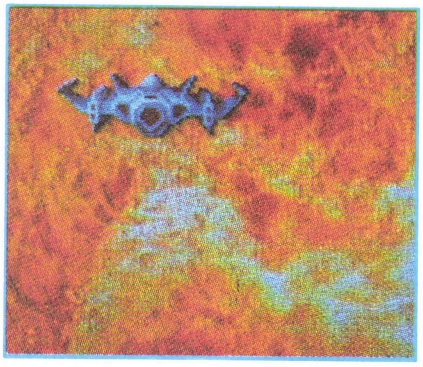
Clockwise from top left: DONKEY KONG III, MR. DO'S CASTLE, POLE POSITION (twice) DISCS OF TRON and MEGAZONE.



the show, and traveling down them is an utterly hypnotic experience. The computer-generated graphics are so high-res they appear to match or surpass any video game graphics we've ever seen, bar none. The 16-channel soundtrack (part prerecorded and part computer-generated) also runs away with the Best-In-Show blue ribbon, and even the cabinet manages to be an achievement (the seat looks weird, but it's the most comfortable gamer's support yet). Whether the gameplay will offer enough features for arcade cowboys to show off with remains to be seen (it was still being tweaked when we played it). But one thing's certain: if ever a video game had a legitimate claim to being a work of art, this is it.

If you're wondering why Atari's *Firefox* isn't on this list—well, we didn't get to play it at the show. A last-minute production problem kept the prototype off the show floor, but Atari told us that the game should be out in the arcades this month. Having seen a videotape demo of the game, it looks like an exciting aerial-only version of *M.A.C.H. 3*. We'll leave it to you to judge how successful it is.





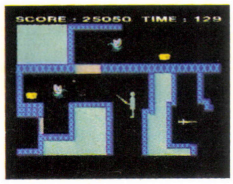
Clockwise from above: Two screens and a back view of Bally's ASTRON BELT; two of the opening screens from Konami's animated laser game, BADLANDS; and the mystery laserdisc air-to-air shootout, Atari's FIREFOX.

Our one pick in the *Dragon's Lair* category turned out to be Stern's *Cliff Hanger*, an interactive cartoon fantasy with great animation, a fine *Rocky and Bullwinkle* sense of humor, a good drawing style, and one big innovation: bottom-of-the-screen prompts on whether to move the joystick or push one of the two action buttons, quickly followed up during blackout screens by scoring info and sometimes a play tip. The plotline is, if anything, more complicated then *Dragon's Lair*, but basically deals with a young underdog hero named Cliff and his rather bumbling attempts to free his girlfriend Clarissa from an evil European nobleman. The clues and prompts may give the game away too quickly for the kind of player who figured out *Lair* in a week, but those who found *Lair* too tough should enjoy this one, and the sense of humor is rich enough to keep some hotshot players coming back again and again.

Laserdiscs weren't the only new technology on display at the show. In fact, two of the hottest games on the floor turned out to be simple (if not exactly obvious) twists on conventional games technologies, tricked up with some very good gameplay design.

One of those was Atari/Tazmi's *TX-1*, a *Pole Position* clone with the added dimension of three 19-inch color screens, all operating in concert, set in the cockpit console. *TX-1*'s multi-screen setup may not look like a big deal from the outside, but sit down in the driver's seat and you're in for a real trip. The wraparound screens fill your vision completely—you actually have to turn your head slightly to

WELCOME TO APSHAI. YOU'RE JUST IN TIME FOR LUNCH.



Boy, have you taken a wrong turn. One moment you're gathering treasure and the next you're being eyed like a side of beef.

You're in the Gateway to Apshai.™ The new cartridge version of the Computer Game of the Year,* Temple of Apshai.™

Gateway has eight levels. And over 400 dark, nasty chambers to explore. And because it's joystick controlled, you'll have to move faster than ever.

But first you'll have to consider your strategy. Is it treasure you're after? Or glory? You'll live longer if you're greedy, but slaying monsters racks up a higher score.

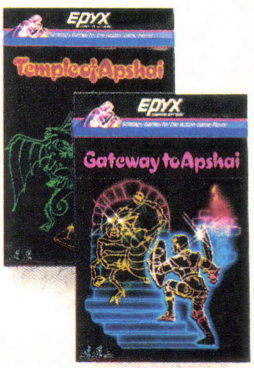
The Apshai series is the standard by which all other adventure games are judged. And novices will not survive.

They'll be eaten.

One player; Temple of Apshai, disk/cassette; Gateway to Apshai, cartridge, joystick control.

EPYX COMPUTER SOFTWARE

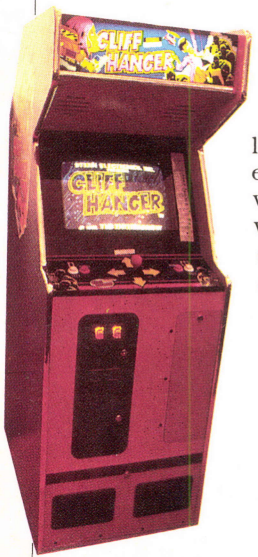
STRATEGY GAMES FOR THE ACTION-GAME PLAYER.



*Game Manufacturers Association, 1981

catch the scoring and course information on the side screens—and lend a sensational 180-degree realism to the basic road race. On top of this spectacular effect, the game incorporates a branching five-stage racecourse design that will take you through tunnel-driving sequences reminiscent of *Turbo*, course checkpoints with hazardous barriers to be avoided, and finally to one of eight Grand Prix courses set in realistic landscapes from several cities. There's also a dynamite spinout effect, a set of very smooth controls, and better animation of tires and other car features than (dare I say it) *Pole Position*.

The other new-tech pick was Entertainment Sciences' *Bouncer*, a cartoon-style game with graphics so incredibly high-res they put the usual run of games to shame. Cast as a bouncer in one of four bars (Hussang's Cantina, Gulley's, Studio 64 and The Ritz), it's your job to keep each nightspot free of several persistent lowlifes without either breaking up the furniture or annoying your legitimate customers. If you perform well and wind up with at least one contented customer at the end of the round, you graduate to the next bar and another, more difficult round. *Bouncer* has perhaps the liveliest cartoon figures (and voices) of any game we saw, tough gameplay, that should appeal to macho players of all sexes and a welcome sense of humor—all done in a tasty graphic style far above the grainy, primary-color coin-op stuff we've all grown tired of.



Four conventional-tech games are making a bid for the Hardcore Player's Delight crown, the main contender being Atari's *Major Havoc*. As the leader of an army of clones, it's your job to fight your way through space to each of the abandoned space stations of the evil Vaxxian Empire, and there thread your way through the maze within each station, set off the station's reactor, and then escape back to space before the reactor goes terminal. The complicated plot is matched only by the complicated player features. Along with careful coordination of a dual jump-button/speed-roller combination that controls the good Major's movements, really skilled play demands lightning reaction times during the space battle, and the ability to make very quick and accurate strategy decisions in the maze section. And there are tons of little details to show off to your less skilled friends, from a Secret Warp Code that lets you dial your way into deeper levels of the game to a pair of handy jump boots hidden in one of the upper-level mazes. A real connoisseur's piece, and slightly insufferable if it weren't for the fact that the game pokes a little fun at itself: right on the tactical scanner you can play a game of good old *Breakout*—you remember *Breakout*—and maybe win an extra life.

GRAND PRIX RACING (above) takes POLE POSITION one step further but this gamer's choice still goes to TX-1.

CLIFF HANGER (left) is a laserdisc game that involves a hapless adventurer named Cliff. BEGA'S BATTLE, above, has some of the best laser graphics around.

If you happen to know Surgeon General C. Everett Koop personally and want to give him a charge by confirming all his worst opinions about video games, try dragging him down to the arcade and letting him watch you play *Blaster* for five

Continued on page 77

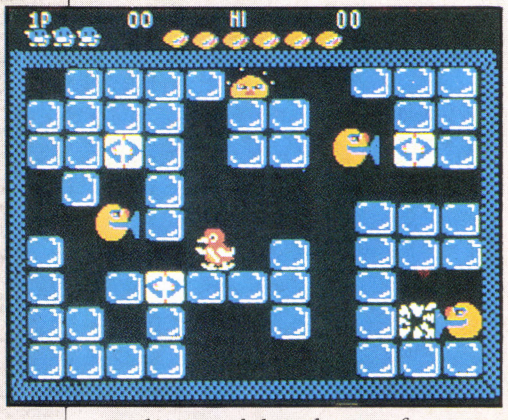
INSIDE ATARI

The Unknown Arcader in "Silicon Valley Days"

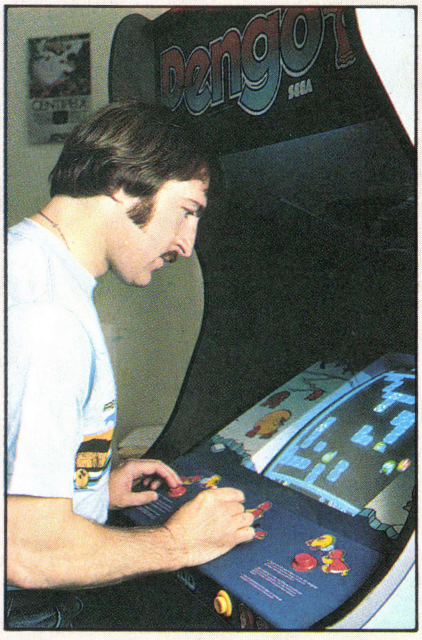
On the highway of life there are many detours. You set your purple sneakers in one direction—towards the ultimate arcade, for example—and suddenly you're on the exit ramp leading to Atari headquarters. And many questions needed answering. Here are a few of them: What lies behind those tinted glass doors? Is the life of a designer the life of Riley? You call that a life? What do you call a cyclops with glasses?

As the Unknown Arcader's fame spreads far and wide, the EF office has been swamped with invitations for him to visit arcades, open shopping malls, endorse a brand of sneakers and get a job. As a rule, UA avoids solicitations, work and affairs for which he'd have to iron a shirt. But when Atari's cartridge division invited him to visit their game design facility in Sunnyvale, California, he couldn't refuse. To go from the dusty arcades of Times Square to the sparkling war rooms of Silicon Valley in a few short months was like a dream come true. He accepted and sent back this dispatch.

Silicon Valley looks like the world's biggest industrial park. Between weed fields and freshly paved drives are the long, low, air-conditioned bunkers of America's new industrial revolution. Most companies seem to have names that start with "Info," "Logi" or "Data" and end with "sys," "tech" or "com." Using this simple system, you could start your own company or, at the very least, come up with a great corporate name.

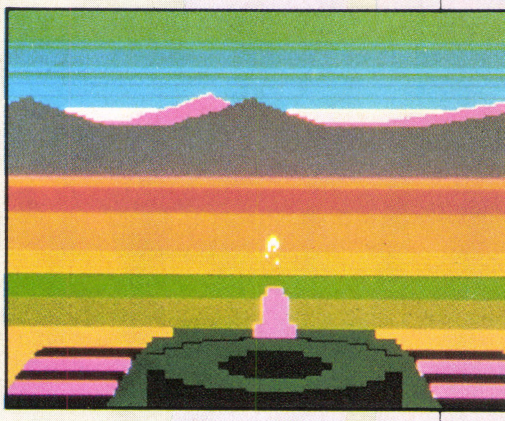


Atari's complex is so large and spread out that I was surprised that there wasn't a complimentary shuttle bus going between the parking lot and the many office buildings sprinkled around the area. Given the fact that Atari has just about everything else imaginable within its confines, a shuttle bus didn't seem too unreasonable. There wasn't one, though there was a gym. This, I thought, must be to get the employees in condition for the long walk between buildings.

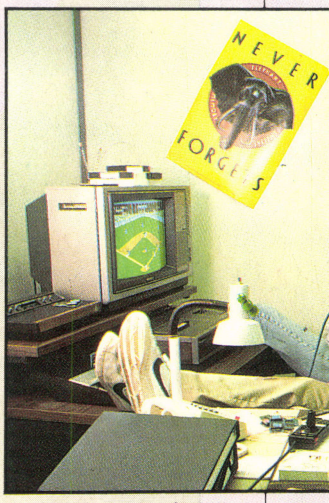


The designers are treated like royalty at Atari. They have beds to sleep in and free arcade games to play with. They work on plain old Atari computers—none of this DEC or PDP or HAL stuff. When UA was there, the home game version of PENGO, at left, was still only an ice cube in the designer's eye.

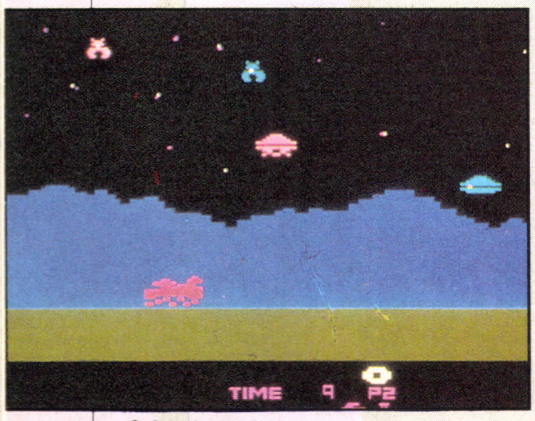
Although Atari has many offices littered around the valley, you have to look hard to find them—no great Centipedes announce their existence, no Ms. Pac-Man dancing on the roof alerts you that you've arrived. There's just the name—Atari—printed in small, dignified letters next to the tinted glass doors. Some of the buildings wrap themselves around tropical gardens with lush green flora and pools built of stone. There's little here to suggest the furious activity going on behind the doors. But I imagined as I stood there that, if I closed my eyes and listened closely, tuning out the cicadas and the pat-pat of running shoes on new cement, I would be able to hear the grinding of creative minds at work.



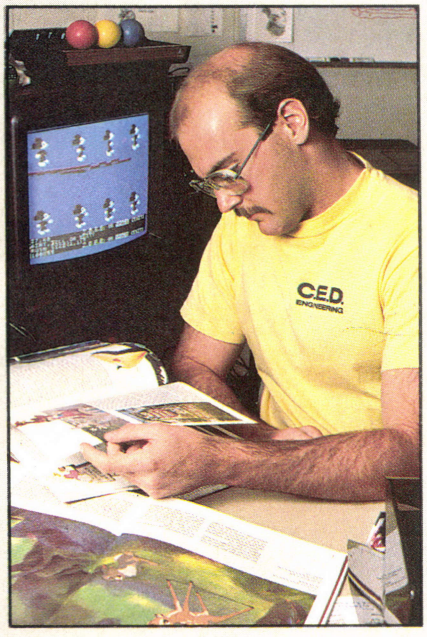
I was met in the lobby by one of the in-house public relations staff. She led me down a maze of hallways to the briefing room. We passed bulletin boards with flyers advertising company activities: Atari night at the Oakland A's game, Atari canoe and rafting trips, Atari excursions to Mexico, the meeting

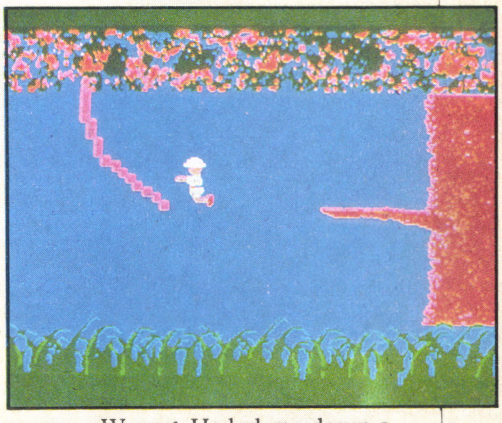


Photos: Janet Fries



of the Atari running team, etc. When, I wondered, do these people work? As if in answer to my silent question, the manager of software development appeared in the briefing room and started talking immediately. He had the pluck and energy of a drill sergeant and the smile of a media superstar. The man *was* Atari. Pacing in front of a chalkboard, he verbally prepared me for what I was about to see. He said there were about 40 programmers in his division including three (count 'em, three) women. These ranged from recent high school graduates to PhDs. He stressed that they were all creative people who needed a lot of freedom to strut their own hi-res eccentricities and produce hit games. To this end they are given loose hours. By loose, I mean non-existent. They can work whenever they want. The facility is open 24 hours a day, seven days a week. They can come in 9 to 5 if they're that prosaic or they can start work at 2 in the morning. They can work all night, 72 hours straight, or on weekends if their social lives are being kept alive by life support systems like mine is. There are beds here in the building as well as a piano for creative breaks. They can spin tapes on their boom boxes or use the gym and sauna while waiting for the muse to visit them. It sounded like a party to me. Pass the pretzels.





The best room of all is the one where intensive testing is done (below, center) on unfinished products. BATTLEZONE (above, left center) probably first saw the light of day in this room and the home adaptation of JUNGLE HUNT (right), inspired by the arcade game below, was no doubt first played here also.

Unfortunately, this is a private party. Getting a job as an Atari programmer is about as easy as getting invited to the Inaugural Ball. There is no system for accepting ideas from outsiders. The days of walking in off the streets with an idea, no track record and no programming skills are over. Most of the programmers now employed by Atari have already had some games published.

Mr. Atari wrapped up his lecture and led me out into the hallway. I had the feeling that the next stop for me would be a haircut, after which I'd be issued fatigues.

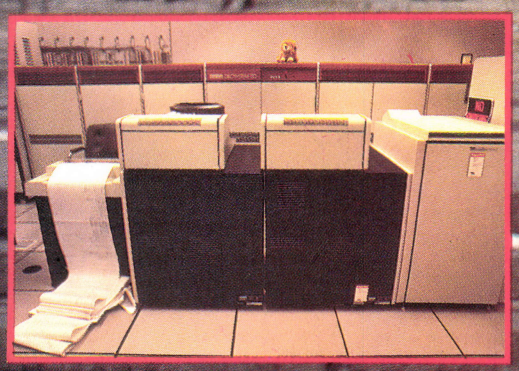
Wrong. He led me down a *Mindmaster* labyrinth of hallways. There were doors on every side and who knew what lay behind any of them. He finally stopped in front of a door that was identical in every way to every other door we'd passed. Strange sounds could be heard behind it. I swallowed hard.

He opened the door. There it was. The fabled Atari arcade room, the playroom of the gods, full to bursting with coin-op games, some favorites and others mere prototypes without the final logos. It was a plain room—no

Continued on page 78

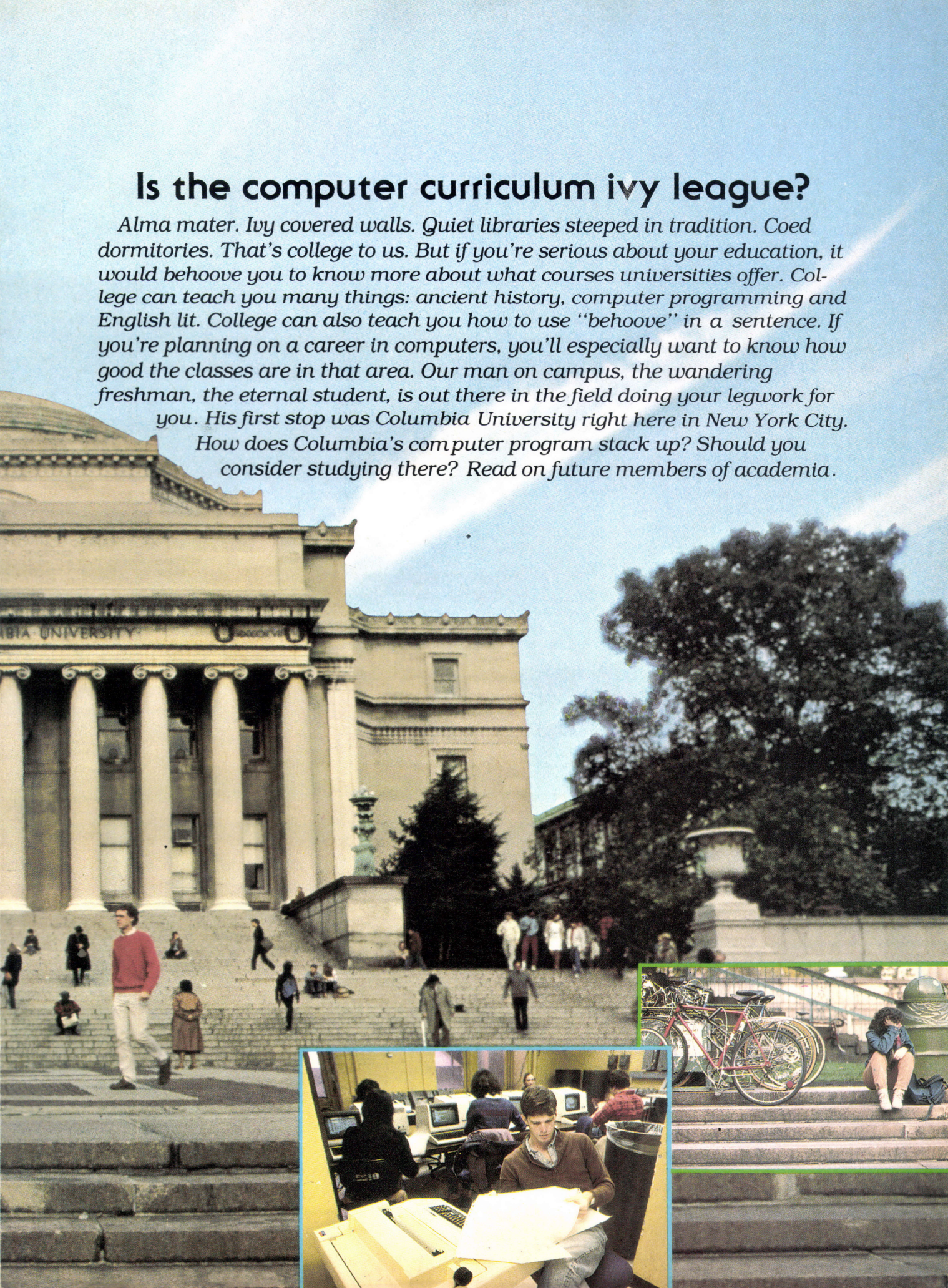
OUR MAN ON CAMPUS

ON-LINE AT COLUMBIA



Is the computer curriculum ivy league?

Alma mater. Ivy covered walls. Quiet libraries steeped in tradition. Coed dormitories. That's college to us. But if you're serious about your education, it would behoove you to know more about what courses universities offer. College can teach you many things: ancient history, computer programming and English lit. College can also teach you how to use "behoove" in a sentence. If you're planning on a career in computers, you'll especially want to know how good the classes are in that area. Our man on campus, the wandering freshman, the eternal student, is out there in the field doing your legwork for you. His first stop was Columbia University right here in New York City. How does Columbia's computer program stack up? Should you consider studying there? Read on future members of academia.



By Marc Berman

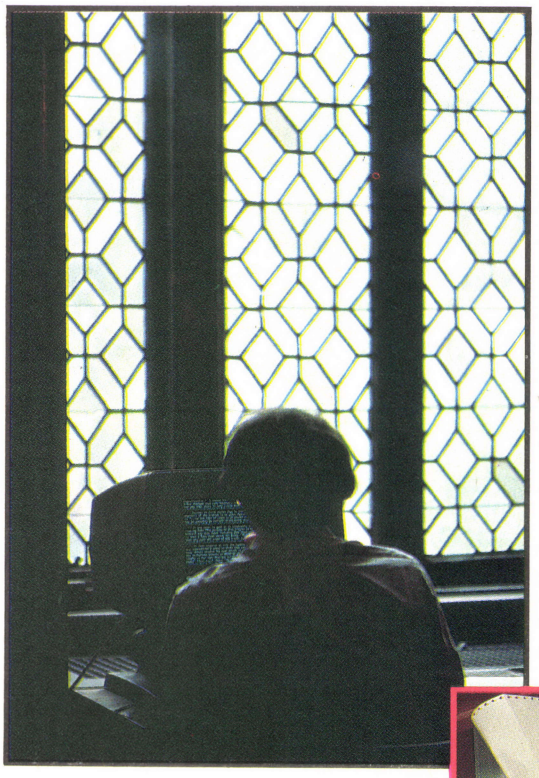
We at EF have decided to get serious about your future. We asked some of our readers what they worry about and the answer we heard a lot was "college!" So we sent an inquiring reporter to check out the campus computer scene. What with every school from Bangor to Bel Air offering computer courses, we figured an in-depth look at different departments would help you decide what you want in a computer school and where to get it.

So here's our first report—on 230-year-old Columbia University in New York City: the computer department isn't quite that old but it's one of the leaders in research and graduate studies. Said one PhD candidate, "With an undergraduate degree, you're almost assured of getting a job; and with a graduate degree you go anywhere you want."

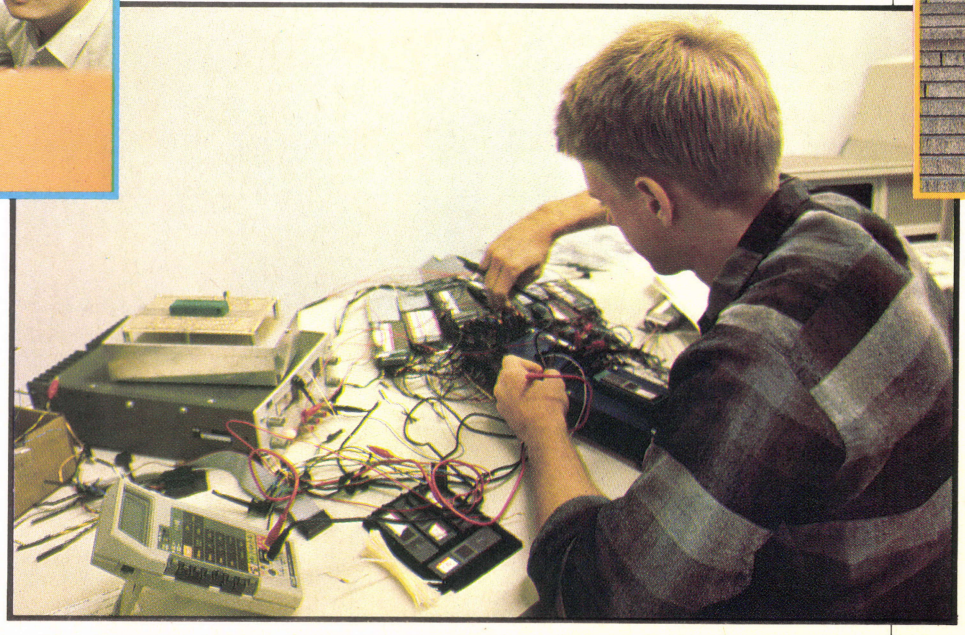
But the difference between the undergraduate and graduate facilities is like Moxie and champagne. There are 141 terminals for undergraduates spread all over campus (even in the dorms), but around exam time it can be hard to find a free one. Some of them are available 24 hours a day, but there is a five-hour limit during prime time (10am to 10pm). The majority of terminals are DEC VT101 and HP2621, older machines smudged and sometimes broken from constant use and abuse. Printer paper (from the five printers) tends to overflow the bins and slither around one's ankles.

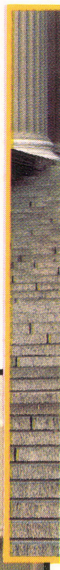
The graduate facilities, on the other hand, are think-tank spiffy and Pentagon secure. Called CUCCA (Columbia University Center for Computing Activities) the underground research facilities require special ID's to enter. So the only undergrads who can get in are the gifted elite who are chosen to assist professors with research.

"There's a major debate about what the undergrads can have access to," says undergrad Mike Rubin. "A lot of the good equipment was paid for with research grants



Students can work in the dorms (above) or in a terminal room (left). Below, a Masters student checks out a chip designed in the Columbia labs. Right, a greeting on printout.





Photos: Andrea Brizzi

which means undergrads can't use it."

Mike says that even 141 terminals aren't enough for the rapidly growing number of undergrads. "The number of students goes up 50 per cent a year. By 1990, the entire city of New York will be taking computer science at Columbia," he says as we walk down the catacombs to one of the undergrad terminal rooms.

Grand Central Station

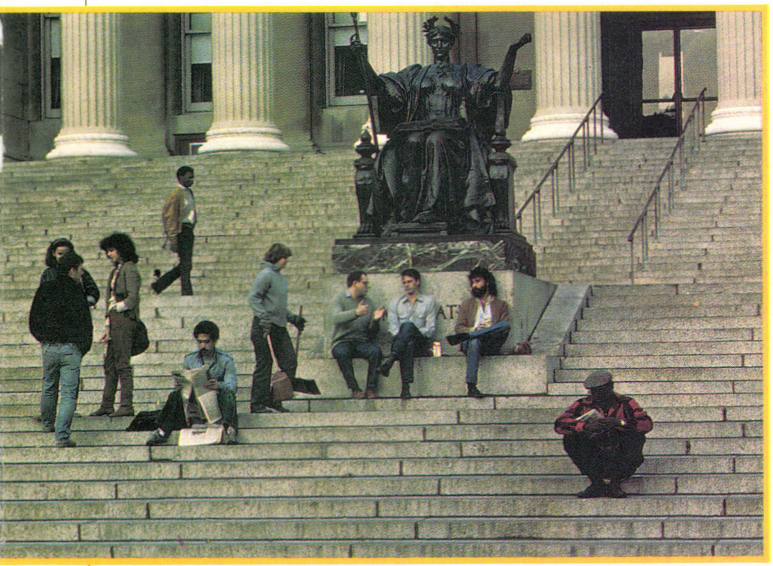
The Self-Service Input/Output room, as it was known in 1959, is also known as Grand Central Station. The busy yellow room is usually full of Computer Science majors working on completing their BA requirements. Some of the courses offered are Assembly Language and Computer Logic, Graph Theory, Computability and Formal Language, Artificial Intelligence and half a dozen intro-to-programming courses.

This is the largest of the undergrad terminal rooms. It is beneath the Chemistry department and next to the University freight depot. Grizzled truckdrivers unload their wares as tweeky freshmen with fancy wristwatches scurry past to unlock the mysteries of Fortran.

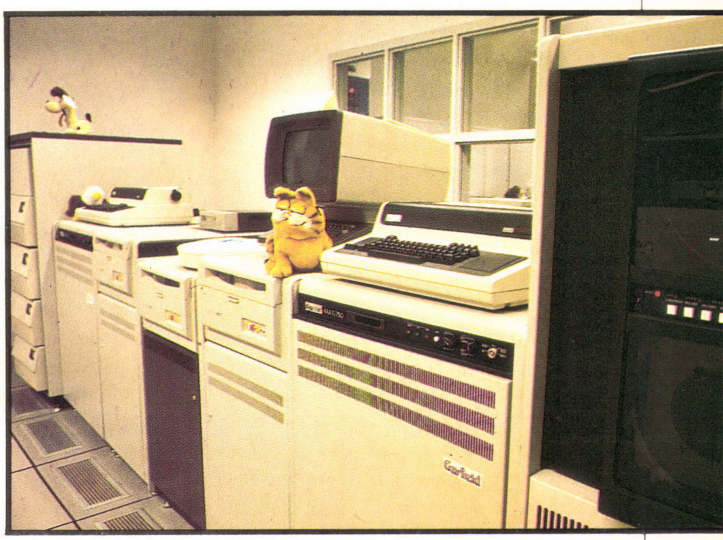
Inside, a guy with a Grateful Dead button and a Walkman is toiling over numerical analysis. Beside him, a pale kid ponders data structures. A Korean boy hacks discretely at discrete math. Above them on the wall is a color printout of a pie graph showing "Poker Night Gains and Losses"—a project for Graph Theory, maybe?

We step over a pile of printout paper and past a row of DEC-WRITERS. "Those are all over campus like cockroaches." says Mike. We exit through a squeaky door, pass the shipping dock and cross campus to another terminal room. This one is painted suicide red. I had a particulary profound thought—if hell was a terminal room, it would look like that place. Instead of "Abandon hope all ye who enter here," though, one of the monitors spells out the hopeless message, "This machine does not work. Don't try it. Don't even think about it," in English and German. Mike explains that although most of the terminal rooms are crowded, some are less private than others, such as the terminals in the lobbies of the dorms.

He is one of the lucky undergrads with access to the fancy graduate facilities. Pushing his glasses up on his nose, he says with obvious pride that he is employed by the department to work on the super computer project. He uses a SUN work station and storage discs the size of pizzas, which have the

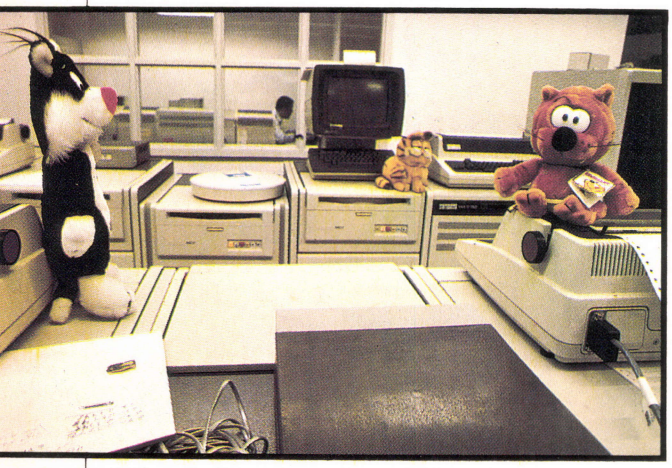


The "Fortress of Solitude" (above) and CUCCA (below) with its feline mainframes. Left, Columbia's centerpiece, Low Library.



memory capacity of about 1,000 floppies. "I'm also working on *Missile Command* for the SUN," he says.

But other than Mike's modest admission, there aren't many people interested in games here. When I dropped a few names of prominent game designers, the grad students I was addressing scoffed as though I had asked Escoffier if he liked Big Macs. Which is not to imply these high-minded types aren't creative or fun-loving. Columbia couldn't be the prominent research center that it is without very creative people and, as for fun, the grad school parties are famous. But the extent of involvement with games is pretty much limited to a scholarly symposium Atari held there on the future of games last year.



Technology meets tradition in a Columbia dormitory (below) where terminals can seem out of place. Sylvester isn't quite so out of place.

Inner Circle

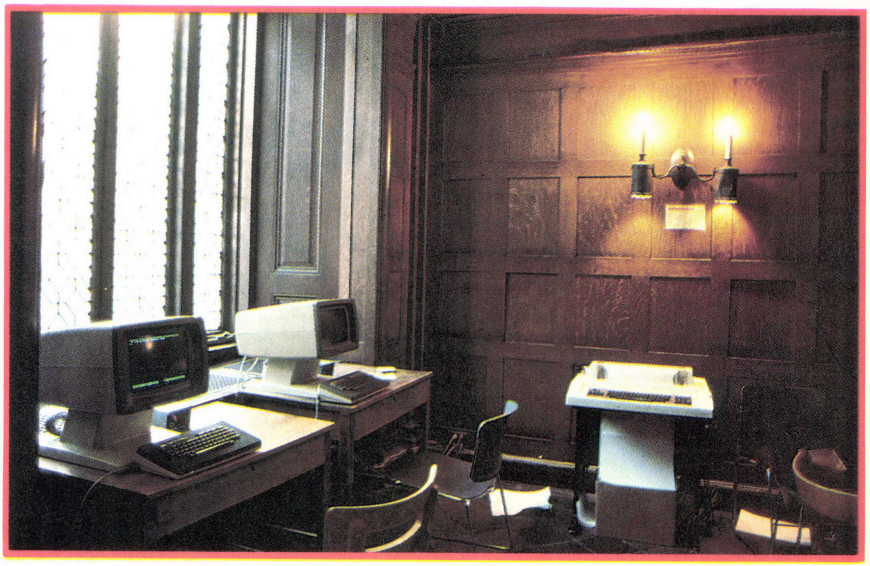
In contrast to the overpopulated undergraduate program, there are only 48 PhD candidates. Being one of those chosen few men and women is akin to being a knight of the Round Table. They can research any project they choose (with faculty approval) and don't have to go to classes if they don't want. (Most of them do, though, to prepare for their four qualifying exams.) Their tuition and living expenses are covered by endowments. Companies such as IBM and Bell Labs help put some of them and the 186 Masters students through school with the understanding that the students will go to work for said companies when their studies are completed. The Defense Department also subsidizes research here and gets the first crack at the results.

Mark Moerdler can program in 15 computer languages. He's a PhD student whose specialty is "computer vision," using math and video to give computers eyes. He props his new Nikes on his oak desk and scratches his moustache. A sign over the desk reads, "Neatness is a sign of a sick mind," but his office is pretty orderly. He says, "There's no real competition here because we're all assured of getting jobs." He notes certain advantages to Columbia's grad school—a low student-to-teacher ratio and a young faculty which is actively involved in research. Some of the projects under development are the super computer, artificial intelligence and natural language processing ("reading" in human terms). A new word processing program for the IBM PC was recently designed by Columbia faculty members in their spare time.

Mark says many grad students practically live at CUCCA and that it's not unusual to find the place buzzing with activity at three in the morning. He shows me the kitchen where many a hungry hacker refuels in the wee hours.

Cat And Mouse

But things really cook in the computer room. The university's mainframes are there, DEC-SYSTEM 20's, IBM 4341's and VAX systems. With uncharacteristic whimsy, they're all named after cartoon cats—Garfield, Sylvester, Heathcliff and Tom. On the other side of a big glass window is the printer room where a sweat-suited boy with a ponytail is designing microchips using a mouse. (I could picture Garfield, Sylvester, Heathcliff and Tom chasing these mice around the lab after dark.) The chips designed there actually get produced and used in research projects. Just around the corner, three Masters students test a new batch of chips that just came in for use in the NON-VON super computer project.



The graduate terminal room looks like Superman's Fortress of Solitude—everything is gleaming

Continued on page 74

ELECTRONIC FUN'S

HOME

1. Q*BERT (A) (Parker)
2. POLE POSITION (A,AA) (Atari)
3. BURGERTIME (A,I) (Mattel)
4. MR. DO (C) (Coleco)
5. JUNGLE HUNT (A,AA) (Atari)
6. POPEYE (A) (Parker)
7. KANGAROO (A,AA) (Atari)
8. DECATHLON (A) (Activision)
9. STAR TREK (A) (Sega)
10. MS. PAC-MAN (A,AA) (Atari)

ARCADE

1. DRAGON'S LAIR (C'tronics)
2. POLE POSITION (Atari)
3. STAR WARS (Atari)
4. MS. PAC-MAN (Midway)
5. GALAGA (Midway)
6. TURBO (Sega)
7. CRYSTAL CASTLES (Atari)
8. STAR TREK (Sega)
9. MONACO GP (Sega)
10. TIME PILOT (Centuri)

COMPUTER

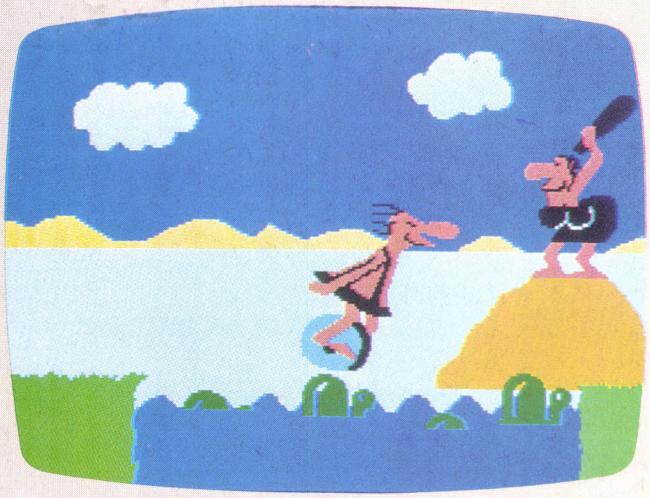
1. ZORK I (Infocom)
2. ZAXXON (Datasoft)
3. LODE RUNNER (Broderbund)
4. CHOPLIFTER (Broderbund)
5. FROGGER (Sierra)
6. TEMPLE OF APSHAI (Epyx)
7. WIZARDRY (Sir-Tech)
8. JUMPMAN (Epyx)
9. JUMPMAN JR. (Epyx)
10. LEGACY OF LLYLGAMYN (Sir-Tech)

Computer Top Ten courtesy of Softsel

The arcade Top Ten courtesy of REPLAY MAGAZINE. The computer Top Ten courtesy of SoftSel. The home games Top Ten is the result of a nationwide poll. (A) stands for Atari, VCS, (I) for Intellivision, (AA) for Atari 5200 and (C) for ColecoVision.

Riley

Is it primordial soup yet?



QUEST FOR TIRES ♪♪♪

Sierra/Atari 400/800/1200

By George Kopp

Here's one for Wiley's Dictionary—Disk Drive: (n.) A fundraiser for the National Chiropractic Association. Maybe that's not the best way for the prehistoric world of the *B.C.* comic strip to enter the computer age, and fortunately it doesn't have to be. The long-awaited *Quest for Tires* game, starring Thor, the Fat Broad and the Cute Chick, is finally here. The graphics have been lovingly recreated by Sydney Development Corp., the Canadian firm that made the original *B.C.* deal with cartoonist Johnny Hart and then sold the distribution rights to Sierra.

Gameplay is familiar. Thor, on his Stone Age unicycle, speeds through the primordial terrain to rescue the Cute Chick from a pterodactyl. By leaps and ducks he avoids potholes, boulders, tree branches, stalagmites and stalactites. He must also ford a river by hopping the backs of turtles while avoiding the Fat Broad's club. At the end he is rewarded with a heart from the Cute Chick but, alas, no kiss.

The graphics are simply terrific. The characters affect the same nonchalance as in the comic strip, and when disaster strikes they conform to all the conventions of cartoon life. For example, when Thor falls off a cliff he doesn't merely sail into space. Like any self-respecting cartoon character he first halts in mid-air, looks mournfully at the audience and awaits the inevitable. The unicycle drops like a rocket, elongating his legs and body as it does so, and finally his head is pulled along into the abyss. Similarly, when he leaps a chasm with the help of a bird, he again looks at the audience with a smug smile of satisfaction.

Sad to say, though, there are flaws which could have been corrected. The soundtrack is dull, for one. Also, you are given no "Ready" cue at the start of a round. Thor is off and rolling as soon as he's on the screen and that first boulder or pothole can be his last. But the biggest flaw is that after rescuing the Cute Chick and going back to the beginning, there are no new obstacles for Thor to face. True, every round gets faster, but that's not enough incentive to really make the game addictive. Still, the graphics just about make up for any other shortcomings of *Quest for Tires* and we can look forward to more *B.C.* games from Sierra.

> Always try to jump on a turtle as it's surfacing. This gives you a little more time before it heads back down again, with you on it.

ENCHANTER ♪♪♪♪

Infocom/Atari 800/1200

By Randi Hacker

One of the more amazing things about *Enchanter* is the graphics. They are cinemascopic, stereophonic, technicolor graphics of the most surreal variety. The dark and ominous castle, the acrid smoke hanging in all the rooms, the blood-stained altar. Gruesome. Gruesome and incredible. And the most amazing thing about the graphics is, there are no graphics. *Enchanter* is an all-text adventure game but one that is so absorbing and outstanding that you'll swear you can actually feel the evil warlock's presence when he steps inside your mind and probes it.

You are a novice sorceror. No. More accurately, you are the 98-pound weakling of sorcery. You attended sorcery school but, it seems, slept through many of your core courses and therefore haven't committed many spells to memory. But it is precisely because you are so weak that you are chosen by the Circle of Enchanters to travel to a Tolkien-like country in order to hunt out the wicked Krill and release the land from his oppressive spell. Being weak means you won't be detected by him quite as early as a stronger sorceror might.

You arrive in this unfriendly land without so much as a letter of introduction or a traveler's cheque. All you've got is the robe on your back and the spell book in your hand. Your spell book, however, is more useful even than a Boy Scout Manual. In it you have three spells: your basic Frotz spell which causes things to emit light, your basic Nitfol spell which lets you talk to

hints & misses

frogs and other animals and your basic Blorb spell which protects "your most precious possession" whatever that may be. It isn't yourself.

As you walk east towards the menacing castle nestled malignantly in the hills above the sea, you come upon scrolls which have other spells that come in handy later on in the game. Often the scrolls practically scream at you to pick them up. Other times, some searching skills are required. You will also have to eat and drink. Remember that. We can say no more.

The castle itself is a masterpiece of hidden terror. Hairy shapes chant unintelligible but threatening religious kyries; bones are littered about the kitchen and hideous monsters with more heads than any creature has a right to guard doors. There are some more savory folk hanging about, too, such as princesses, rainbow-colored turtles and a rather puzzled adventurer who tries to eat his sword.

Figuring out how to get into the castle and explore it without being summarily disposed of right off the bat is the first problem and, like all other problems posed during the course of the game, is not easy to solve. However, once you do realize how to go about it, you feel a sense of accomplishment unparalleled in this dimension. Once inside the castle, the myriad rooms and corridors, towers and turrets, will have you wandering around entranced. Or enchanted.

I cannot praise Infocom enough for the imagination, innovation and humor that went into *Enchanter*. If I could Blorb it, and that way keep it forever, I would.

Exex or not, it isn't your job to get the scroll in the control room.

CANDY BANDIT 1/

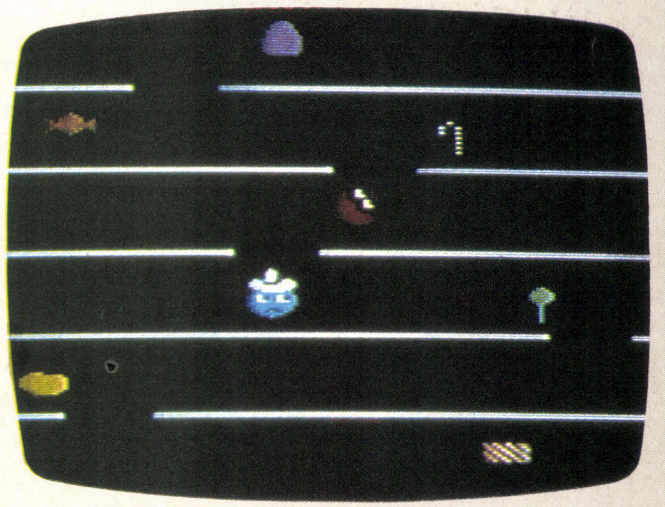
T&F Software/Commodore 64

By Robert Alonso

Your family dentist would probably choke on toothpaste if he knew that *Candy Bandit* offers you an endless supply of butterscotch, lollipops, candy canes, gumdrops and jelly beans to munch on. Not to worry, though—chances are you won't actually eat many goodies in this game.

Difficult is not the appropriate description of *Candy Bandit*—impossible is more like it. The basic screen set-up and object of the game are a retread of Sierra's *Jawbreaker*: you steer a smiling face around a moving "maze" of parallel lines and gobble up candy delights. The problem is that the face is extremely slow, awkward and difficult to steer. To add to your difficulties, you are constantly pursued by a very intelligent sheriff who always seems to know where you are and can pass through the maze boundaries without any problem. Needless to say, if he catches you, it's all over. Added to this is perhaps the most frustrating aspect of *Candy Bandit*: if you touch a maze boundary you get stuck there until a maze gap comes your way. The combination is exasperating and results in losing many lives to the sheriff.

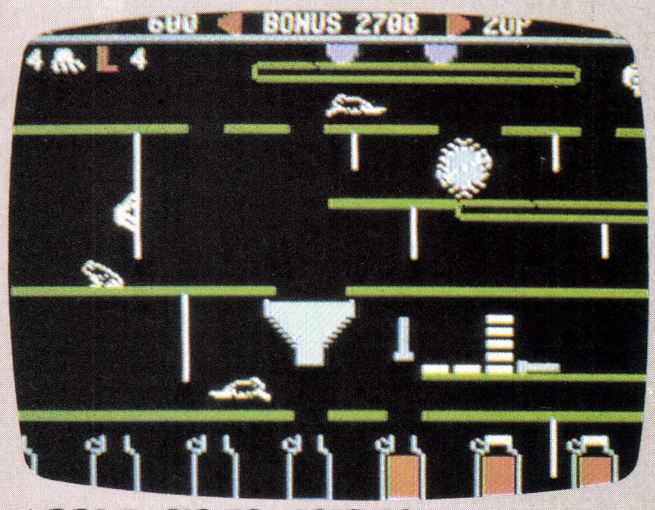
The graphics and sound effects keep *Candy Bandit* from being a total flop. The demo mode will amuse just about anyone. The smiling face you play with in the game rolls out of the left side of the screen until it bumps into a large piece of gum. It then chews the gum



and creates a giant bubble which pops. All this is beautifully animated and is accompanied by a very pleasant and faintly familiar tune. Parts of the tune are repeated during the game whenever the sheriff catches the bandit.

Sprite graphics are used frequently in the game: the sheriff, bandit and candy pieces are all sprites and all are well-designed. This game makes good use of the graphic capabilities of the Commodore 64, but the overall design is much less successful.

Keep away from the edges of the maze unless you want to cross. If you touch one, you will get stuck and usually lose a life.



APPLE CIDER SPIDER ♪♪♪

Sierra/Apple

By Steven A. Schwartz

I've hated spiders since I was very little. They're nasty, ugly critters that sneak up on you when you're asleep in bed. Sierra On-Line is offering an arcade-style game where *you* are the spider, trapped in an apple cider processing factory. The object is to move the spider from the bottom of each screen to the top by jumping and climbing.

Apple Cider Spider is another *Miner 2049er*-style computer climber. The game is played in levels, with three screens per level. Each screen depicts some part of the cider-making process, like chopping the apples, juicing or bottling. Moving conveyor belts and platforms are scattered throughout the screens. Hanging spider webs are strategically placed to give you something to climb, in addition to the running and jumping you must do. If you miss a jump, run into one of the cider machines, or fall, you lose one of your initial five spiders. After completing the three screens, you move to the next level of difficulty. At the higher levels, predators like frogs, birds, and moths begin to appear. If one touches you, you die. Points are awarded for climbing webs and rapid completion of each screen. There are bonus webs you can grab to multiply your points, and bonus spiders are awarded for each 50,000 points.

The best thing that can be said for *Apple Cider Spider* is that the graphics are superb. Beyond that, things go rapidly downhill. First, there is only one correct path to the top of each screen; jumps that appear possible are often fatal. Second, you cannot jump back to a previously traveled platform or conveyor belt; these moves are always fatal. Third, the three screens are identical at each level; learn them at the easier levels (0-1) and you're ready for the all the advanced levels. Fourth, once you begin to encounter the predators, you'll find that they, too, move in a preset pattern. If a frog's next jump in its pattern is to the left, you can move your spider directly next to him on the frog's right—in perfect safety. Fifth, many of the bonus markers are virtually impossible to reach. Sixth, you must manipulate the joystick *perfectly* for all jumps and climbing actions. Move the stick a fraction of an inch too far and, instead of climbing down a web, you fall off the platform and die. In some spots, the joystick will respond in a very strange manner. Try to jump left and you may find yourself flung inexplicably to the right—to your death, of course. Finally, after completing the sixth level, that level is repeated until you die—nothing new, no more variations.

There are just too many things wrong with *Apple Cider Spider* to make it a good game. Overall, there's a definite lack of human factor engineering, which results in a *lot* of unnecessary frustration. And it might have been nicer if cartoon-like spiders had been used—but these look *real* spiders, and I still don't like 'em.

Memorize, memorize, memorize that path to the top of each screen.

THE STANDING STONES ♪♪♪

Electronic Arts/Apple II

By William Michael Brown

Are you a *Wizardry* wimp? Can't even find your own feet in *Temple of Apshai*? Beginning to believe all your role-playing friends are reincarnated medieval princes with a natural bent for chain mail, magic and mayhem—and that you, poor 20th Century Nerd, are never going to role-play anything but Mr. Bill? Well, whine no more, O Would-be Knight—*The Standing Stones* am here. And if you play your Tarot cards right (that is, if you're not dumb enough to draw to an inside straight in Major Arcana), I hereby guarantee that *even thou* shalt be able to complete *Stones'* Grailquest without being repeatedly greased by flying slugs or other loathsome creatures at every fifth turn.

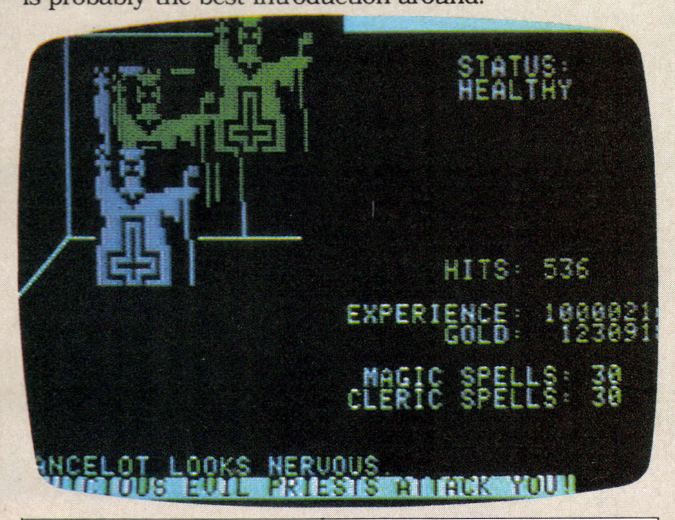
Of course, teddibly authentic *D&D* purists with noses on high (may their armor detumesce) will probably dismiss *Stones* as a sort of *Wizardry*-with-training-wheels—and they may be right (who cares?). But for the rest of us—including some who've already logged plenty of *Wizardry* mileage—*Standing Stones* offers a chance to enjoy nearly every aspect of the swords-and-sorcery role-playing genre, with most of the more frustrating and dull parts left out.

While it is slightly stripped down, *Stones* does have its heart and other electronic parts in the right places. Setting out on your quest for the one true Grail, which has been spirited away by evil wizard Kormath to a dungeon deep beneath Stonehenge, you first roll for your strength in various qualities: virility, intellect, agility, etc. With your knightly persona thus created, you exit the main menu and venture onto level one of Kormath's multileveled labyrinth, ready for the usual questing routine: slaying monsters (there are over 200

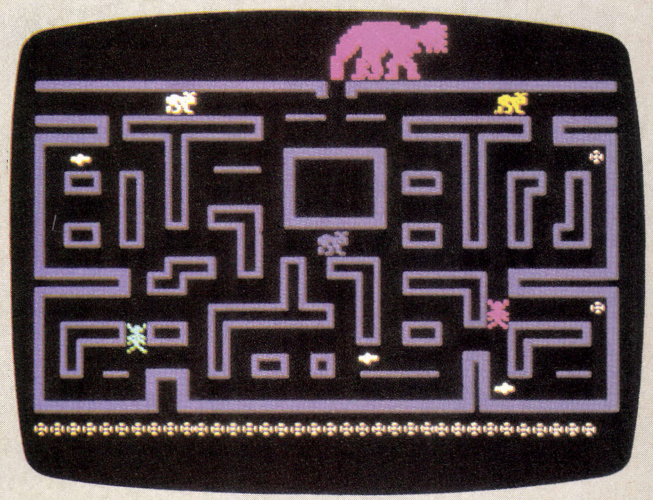
widely varying types, including some pretty friendly elves) in combat of both the magical and hack-and-chop varieties, grabbing gold, collecting experience/hit/magic power points that'll help you survive better, mapping the 3-D maze as you travel through it, and searching for the entrance to the next level.

All the play mechanics are designed for simplicity and convenience; it never takes more than one or two keys to cast spells, move, etc., and there are plenty of help menus to remind you of your options. And every level seems packed with surprises: hidden and/or one-way doors, nasty pits, rings of power, scrolls and potions, mysterious chests that have a tendency to detonate when opened, abandoned armor (enchanted, cursed or workaday, take your pick), etc. The game also sports quite a sense of humor: along with the regular monsters, you'll sometimes find yourself under attack by flying kitchen saucers, or hanging out in an oasis, betting on the bug races as local witchdoctors de-curse your armor While-U-Wait.

True, some things you've met in other games aren't here. The players have no alignments, gold isn't difficult to find—it's almost everywhere—and there are none of those brain-busting riddles that seem to require deep knowledge of astrology, magnetohydrodynamics or some other arcane branch of learning to solve. But it has a few spells I haven't seen the like of before (including "Divine Guidance"), a "Spirit of Lancelot" who'll help you out when the going gets tough, a funny guidebook with lots of good advice for beginners, and a nearly complete map of the first level for the easily confused. If you're just starting out in role-playing, this is probably the best introduction around.



Don't try venturing onto the second level until you've amassed enough hit points (say, 50) to roam anywhere you please on the first level.



K-RAZY ANTIKS

CBS Software/Atari 300/800/1200

By Phil Gerson

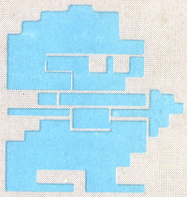
K-razy Antiks is a good idea that somehow failed to be turned into a good video game.The concept—an ant wandering in an anthill while avoiding enemy ants and other dangers—is clever enough, but it just didn't develop into a really interesting or enjoyable game.

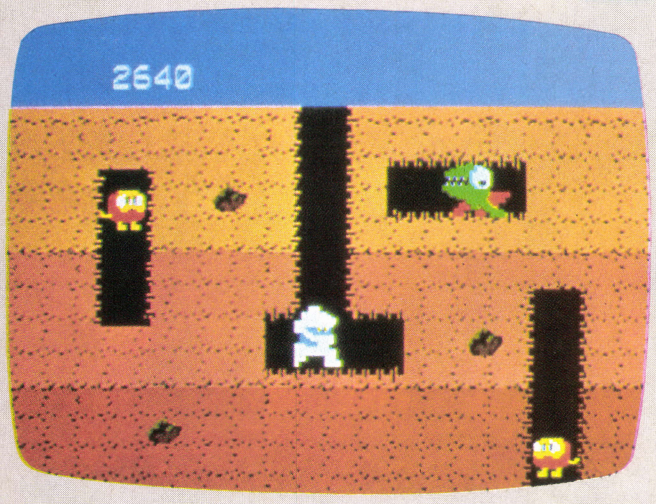
Heading up the list of problems is the way the ants flicker on and off when they move—similar to the effect that made the VCS version of *Pac-Man* such a turn-off. It is no more pleasant in this game. Added to this is the poor joystick response, a major problem in the maze-like anthill.

In addition to avoiding enemy ants, you have to escape floods caused by periodic rainfall. During a flood, the anthill fills up part-way with water and any ant caught in it will drown. Another hazard is the anteater which appears above the anthill and sticks his tongue into its winding passages. Ants touched by the tongue are sucked into the anteater's mouth and devoured. The anteater will also eat any eggs that his tongue can retrieve. (All ants can lay eggs to keep alive if the original ant is eaten or drowned.) If your ant dies and you have no eggs laid on the screen, the game is over. You score points by killing enemy ants until you clear the anthill of them. When this is accomplished you move on to another anthill.

While the game may sound remotely interesting, and indeed may seem that way during the first few plays, its annoying technical problems and lack of variation will probably diminish your desire to play much longer.

The best way to survive is to quickly lay eggs in various corners of the screen. This makes it likely that you'll get a new ant if the first one dies.





DIG DUG ★★★★

Atari/Atari 5200

By Michael Blanchet

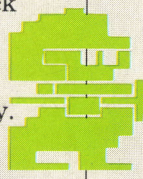
Dig Dug, adapted from Atari's arcade game of the same name, addresses the maze idea in a new fashion. You control Dig Dug who must tunnel through layer upon layer of terra firma in search of Pookas and Frygars. Dig Dug burrows through the soil leaving a tunnel big enough to accommodate both himself and his enemies. When he taps a compartment containing either a Pooka (a beach ball-like fellow with legs) or a Frygar (a bad-tempered dragon that breathes fire), he must run or fight. Contact with either beast will cause him to wither. With a tap of the action button, Dig Dug can brandish a most unlikely weapon—an air pump. By continually tapping the button, you force more and more air into your adversaries. A swift half dozen or so pumps will cause both beasts to burst.

In earlier rounds of play, *Dig Dug* is a simple search and destroy mission. Each creature can be engaged and defeated with little or no threat to Dig Dug's well-being—that is, if you move him quickly. If you let him dawdle and wander about, the caged creatures will slip through the soil like earthworms to confront you. Because of the time necessary to burst each beast, facing off against two or more can be risky.

Since *Dig Dug* offers you so many options as to how, when and where to attack, it opens a new category of games. To call it a simple reflex contest would be inaccurate, while placing it in the strategy simulation category would be just as erroneous. It is, though, a happy marriage of those two groups. Since the game is visually appealing and immediately gratifying, it should please even the most casual of gamers, even those who never tried it when it was an arcade favorite. Skilled players will like the fact that some solid strategy, both subtle and obvious, is needed for a good score.

Dig Dug, like all Atari-produced 5200 software, supports its maker's claim of this system's superior graphic capabilities. *Dig Dug* is so close to its inspiration, I can see no reason why anyone would ever want to pay another quarter to play it. Surprisingly, the home playfield layout, insofar as width and height are concerned, is remarkably close to coin-op standards. Instead of squashing the screen down to accommodate the orientation of the typical television set, *Dig Dug* has been framed with a small black border. Thus, the playfield is taller than it is wide—the way it's presented in the arcade version. And to top this off, Atari has even managed to cram the delightful *Dig Dug* soundtrack into this cartridge with not a note omitted.

One final observation: you'll find that the 5200 system's controller, infamous for being difficult to operate, does not detract from *Dig Dug*'s playability. Neither razor sharp turns nor diagonal moves are necessary here.



When facing off against two or more Pookas and/or Frygars, stun the one closest to you, then burst the second.

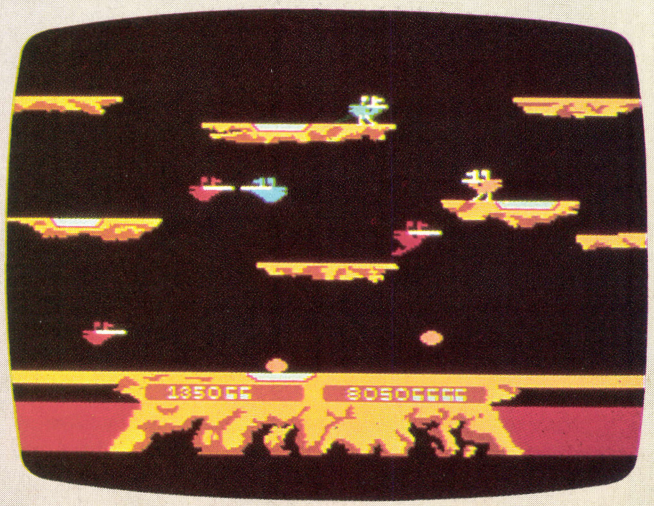
JOUST ★★★★

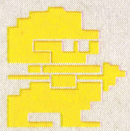
Atari/Atari 5200

By Randi Hacker

Gentlemen, start your ostriches. If you can figure out how to do that, you're well on your way to playing one of the finest arcade adaptations of this or any other season. The controllers are perhaps the only thing about this otherwise fine game that is disappointing and, when you come right down to it, even they aren't that bad.

As in the arcade game, you are an ostrich jockey





pitted against other ostrich jockeys somewhere above a planet whose continents seem to float above its surface. You've got to fly around and knock these other bozos off their birds before they do the same to you. Each time you knock one of them off, he drops an egg. Pick this egg up quickly by running over it or it will hatch into another ostrich cowboy who knows more trick riding than Annie Oakley. Both one and two players can enjoy the 5200 *Joust* and, as in the arcade game, the two-player version allows you and your partner to gang up on the computer in the Team Wave.

The graphics are sensational. All the ethereal, never-never land quality of the extraterrestrial landscape has been captured. The birds are avian masterpieces and have been reproduced here all the way down to that Indianapolis speedway sound they make when they screech to a halt. Both the lava troll and the pterodactyl make their required appearances as well.

As far as the controller goes, well, it's awkward at best but can be mastered after a little practice. Wing flapping is accomplished by holding down the lower fire buttons and direction is determined by a push of the joystick itself. Not too tough. As always, you've got to be above the guy you're attacking in order to defeat him.

Always try to start out on the top right platform. Height makes the difference.

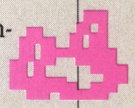
SURVIVAL RUN

MB Electronics/Atari VCS

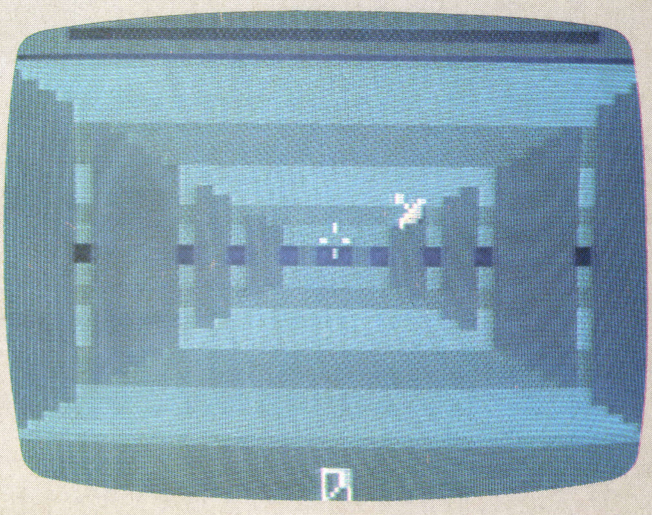
By Charles Ardai

The first thing that you will notice about *Survival Run* is its box—it's about the size of two Atari VCS's. Now don't get the wrong idea; all of that is not just for the cartridge, but for the accessory controller that comes with it. However, this controller is not just your average accessory controller; this is no joystick with two buttons instead of one. In fact, the only thing that you can compare this controller to is the controller for the arcade game *Star Wars*. It has two handles linked together in the center and is plugged into the joystick port of your Atari VCS. The controller slides in its base, so to move you simply slide the controller in the direction that you want to go. In addition, the fire button is a sort of crude bio-feedback device. Each time you shoot, you feel a buzz in your thumb as if you had just shaken hands with a practical joker.

As you may have guessed, this controller is just ideal for first-person games like *Robot Tank*. Unfortunately, the game that comes packaged with this controller, *Survival Run*, while it is a first-person game, is perhaps one of the most basic and terrible first-person contests ever made. It seems that the designers made a wonderful controller, and because they felt obligated to give you a game with it, dashed this one off rather perfunctorily.



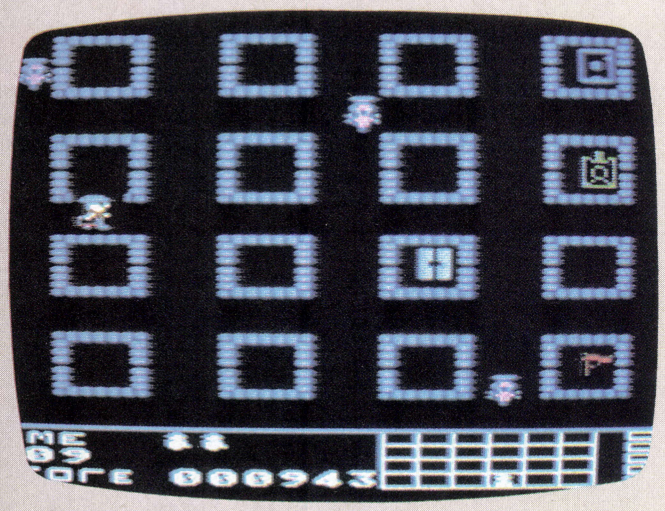
In *Survival Run* you control a vehicle of some sort (what kind you're never told) and with it try to maneuver through a gigantic maze. The only reason that you are given for undertaking this odyssey is the same reason for the chicken's crossing of the road—to get to the other side.



The maze is shown in its entirety at the top of the screen, and it's full of dead ends. Every so often, after flying through an expanse of tunnel, you will come to a fork in the road. If you hit the divider, you die. If you choose the dead end tunnel (there always is one), you die. Even if you choose the right tunnel, more often than not, you will run right into a force field and die. If you run out of fuel, you die, and the only way to refuel is to shoot one of the force field generators which are situated too close to the force fields. And, you will remember, if you fly into a force field, you die. Oh, one other thing—you have only one life. That's right. As if this weren't bad enough, there is no way to continue a game from any part of the maze except the very beginning.

Survival Run doesn't even deserve the appellation 'game,' since being a game implies being fun to play. As a game, *Survival Run* would get half a joystick, but since you can always use the controller with a different game like *Starmaster* or *Star Raiders*, the whole package gets a rating of two and a half.

File down the edge of the controller above the left handle, since that is where the fire button is. If you don't file it, your hand will be rubbed raw, no matter which finger you fire with.



THE SPY STRIKES BACK ♪♪♪

Penguin/Atari 400/800/1200

By George Kopp

Though he may have met his maker thousands of times in *Spy's Demise*, Penguin's secret agent indeed strikes back in another challenge of reflexes and cryptography. *The Spy Strikes Back* is not a difficult game to master (the subtitle is *How Not To Be Seen* and the more time you spend cowering in a dark corner the more time you'll live) but it is a difficult job to find, let alone decipher, the clues and solve the mystery.

Spy Strikes Back takes you to the East German town of Aichenbach, hideout of international terrorist and bon vivant Dr. Xavier Tortion. (At this point it's advisable to put this review on pause while you decipher the joke. Got it? Good.) He's hiding out in a castle with five floors, each floor divided into 24 sections of 16 rooms each. That comes out to 120 screens. In those 120 screens are hidden nine clues. As you may guess, this game takes a good deal of perseverance because, as in *Spy's Demise*, the clues are in code.

Getting through the levels isn't too hard. All you have to do is hide a lot. Figuring out where you are, however, is another story. You have very little control over where you go. For example, there are elevators, but they'll go up or down at their own whim. You can't explore the castle systematically and you frequently double back on your tracks. (A couple of charts in the corner tell you where you are.)

Each section looks about the same. There are 16 rooms in each and the corridors are patrolled by electronic sensor whatnots. You can't fire at them—all you can do is run or hide in a room. Some of your hiding places have bonus prizes in them, and it's a good idea to collect them because you get an extra spy every 2,000 points. As with *Spy's Demise*, the whole tedious operation is accompanied by some great music, including Beethoven's Fifth and Bach's *Jesu, Joy of Man's Desiring*. The spy deserves a vacation at the Salzburg Festival.

> Cover an entire level before taking any elevators, and make a map.

SAMMY LIGHTFOOT ♪♪♪♪

Sierra/Apple

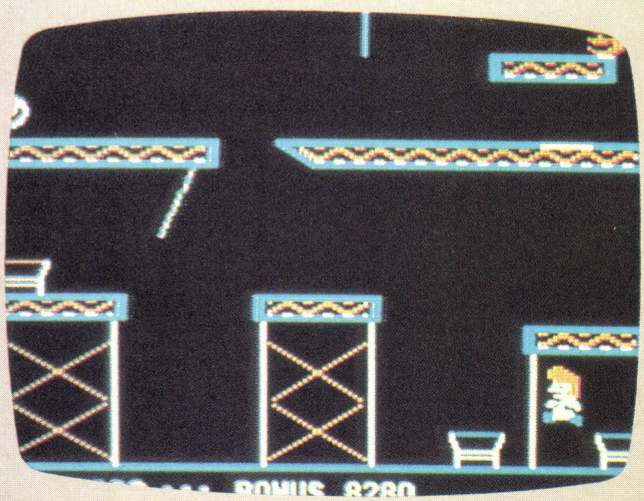
By Michael Blanchet

With a name like *Sammy Lightfoot*, one could easily mistake this program for something you'd learn in a home dance course. Nowhere on the box will you find a representation of the game's graphics. The text description is misleading at best. If this were a poor game, I could understand the manufacturer's reluctance to tell it like it is. *Sammy Lightfoot*, though, is not poor. In fact, it's one of the best jumping/climbing/swinging games I've ever seen.

Sammy is a Fifties leftover complete with pompadour. According to the instructions, your job is to "challenge the Cool Pumpkin" in each of the game's three different scenes. These aren't nearly as weird or surreal as the presence of a cool pumpkin might suggest—Sammy, it seems, is auditioning for the circus.

Anyway, the idea in each round is to complete the assigned task before the bonus timer runs out. Unlike similar contests such as *Hard Hat Mack* and *Donkey Kong*, you won't forfeit a life when the timer expires.

In screen one Sammy must first hop onto a trampoline, then jump onto a platform, swing across two more platforms, jump onto another trampoline and finally climb onto the ledge where the pumpkin is perched. While he's busy climbing and jumping he



must also avoid a storm of bouncing balls that are cascading down on him from the upper edge of the screen. Believe it or not, this is the easiest of the three screens.

In screen two you must sidestep falling plungers and watch for disappearing platforms as you try to reach the other side of the screen. Once the west side is reached, you must turn around and come back. This time around the plungers will serve as stepping stones. With each successive crossing, the end platforms creep a bit closer to the top of the playfield. Ultimately, you must see Sammy safely onto a flying carpet which carries him to his third and final challenge.

In screen three you must guide Sammy to an elevator while avoiding falling hammers and puff balls. If you make a safe crossing the elevator will whisk Sammy up to a trapeze.

Although *Sammy Lightfoot* is joystick compatible, I found it far easier to play in the keyboard mode. Designer Warren Schwader has thoughtfully programmed two sets of keys to control Sammy's movements—one set for southpaws, the other for righties.

If I had to describe this game with one word, I'd say it was silly—silly meaning funny, not pointless. Fans of the climbing game should jump on this one.

To avoid the bouncing balls, tap the space bar when Sammy is already bouncing on the trampoline.

TIME ZONE ♪♪♪

Sierra/Apple

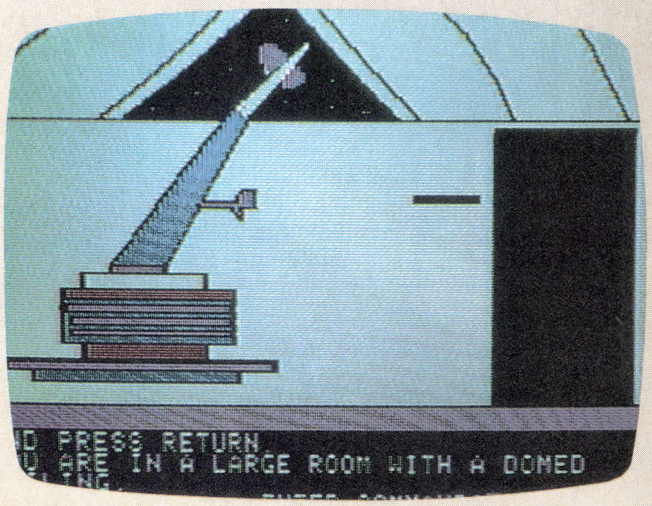
By Michael Blanchet

Some people just can't make do without the biggest, best, or most expensive. If those same people are into adventure games, you can bet they're playing *Time Zone*.

Spread out over both sides of six discs, with over 1,300 different "rooms" to explore and some 1,400 screen pictures to see, *Time Zone* is probably the largest adventure game ever created. Of course, any game this big wasn't designed with the novice adventurer in mind—and with a list price of from $79 to $99, it's a big investment. Still, if you're an advanced adventure fanatic you'll find the price a bargain. Sierra designers estimate that *Time Zone* holds the equivalent of thirty of their standard-size adventures, and that works out to about three bucks a pop—not very much, especially when you consider how much time you'll spend playing it.

Despite its size, *Time Zone* really doesn't play any differently from the kind of adventures you already know. Rather, it makes ultimate demands on the skills you've already developed in other adventures: how to deal with the people you meet, how to find things you need, and how to make intuitive leaps that'll speed you on the way to your goal.

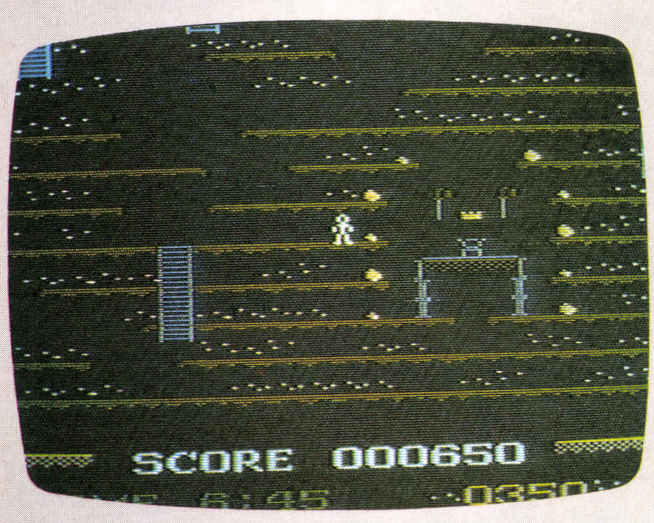
The *Time Zone* scenario spans millions of years and takes you through several continents, but your ultimate goal is to reach the planet Neburon in the year 4082. There you must stop an attack on Earth by the evil Neburon ruler Ramadu, who is jealous of Earth's rapid technological progress and fearful that Earth may soon surpass his own forces.



But before you can get there, you must travel via time machine to (among other places) Antarctica in the year 50 BC and North America in the 1700s. Since each scenario is an adventure in itself (you can enter or leave anytime you want, but the time machine doesn't give you any real control over where you're going once a sub-scenario has begun), your short-term goal is to get along with the locals and survive—difficult enough, since a phrase or action that made you king in one era can get you killed in another, and you don't get any unfair advantages by being a time traveler (you can't bring back an Uzi submachine gun to use on hostile Romans, for instance). In the meantime, you have to keep your eyes open. Although *Time Zone* is historically accurate, anachronisms do exist—some of them jokes planted by the designers, others clues to how to undo Ramadu when you finally confront him.

This is an ambitious project for ambitious adventurers only. If you've got nothing to do with your free time for the next year or so, I'd say go for it. Novices and those with short attention spans should stick to the present.

Make back-up discs! If you don't, by the time you reach side 12, side one will look like Swiss cheese.



MOUNTAIN KING ///

CBS Electronics/Atari 5200

By George Kopp

The Norsemen, it is said, in their perpetual quest to get out of Norway, discovered America 1,000 years before Columbus. One of the reasons they were so anxious to leave the ice-bound fjords of their native land is that, in Viking times at least, the place was hopelessly haunted. Norse myth is full of trolls, giants and other spirits of varying degrees of malevolence.

In *Mountain King* from CBS, you must do battle with these evil spirits, retrieve the Flame Spirit, steal the Crown from under the nose of the Skull Spirit, and make your way to the Perpetual Flame at the top of the mountain where you present the Flame Spirit in homage. Helping you on your way is the music of Edvard Grieg, Norway's greatest composer, whose "In the Hall of the Mountain King" from the *Peer Gynt Suite* gets a non-stop workout.

Starting at the top of the mountain you descend into an abandoned diamond mine. Deeper and deeper you go, collecting diamonds worth one point each. When you have 1,000 points you can start looking for the Flame Spirit (it's invisible, but you do have a magical invention called a flashlight). As you get closer to the Flame Spirit Grieg's music gets louder. Find the Flame Spirit, take it to the Skull Spirit, climb up on the Skull Spirit and put on the Crown. Then run like crazy, avoiding the bats who'll steal your Crown. Get to the top of the mountain and you get to do it all again at a higher level.

In the diamond mine you'll find chests containing either bats or bonus points, although you won't know which until you open them. You're also menaced by a spider if you stray to the bottom level. He'll wrap you up in a web and eat you if you fail to wriggle free in time. The only aspect of the game that's really difficult is getting out of the mine once you've got the crown—this is very difficult but not impossible. Graphically, *Mountain King* is a treat and musically it's unique. Gameplay is interesting and certainly different. Scientists are still pondering how a game like *Mountain King*, with no shooting and virtually no strategy can be as much fun as it is. *Mountain King* is also available for Atari computers, and the computer and 5200 versions are as identical as two games can be.

> Since the diamonds are so easy to collect there's no reason to open the chests at all. It just wastes valuable time.

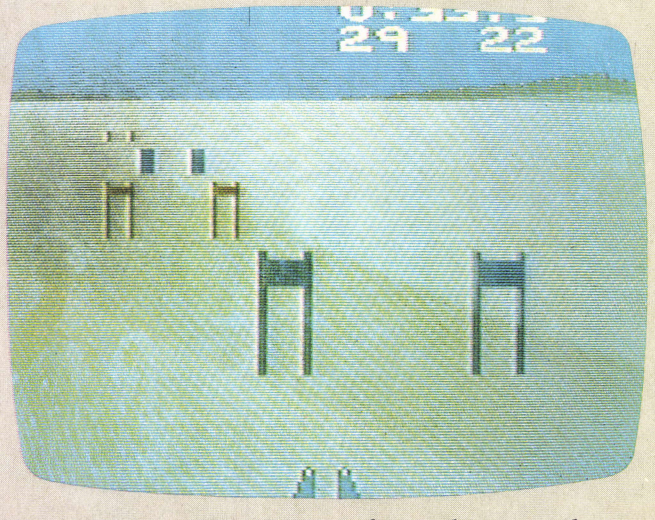
MOGUL MANIA //

Amiga/Atari VCS

by George Kopp

Mogul Mania is the first game designed for the Joyboard, Amiga's unique feet-on controller. The Joyboard is the ultimate controller for gamers big on body English. You stand on it, shift your weight around, and watch your movements translated to the screen. A joystick can plug right into the Joyboard so you can get fire button action while you rock and roll.

It's an interesting idea and could be a lot of fun, but not with *Mogul Mania*. The mogul of the title is not the cigar-chomping Hollywood variety but the abominable snow-covered type—those dreaded ski slope hazards. Perched atop your Joyboard you have to maneuver a



downhill slalom run. The tips of your skis are at the bottom center of the screen, the time clock at the top. The slalom gates come toward you out of the white background.

As with real skiing, physics is everything. To turn left you have to lean right and to turn right you have to lean left. At that point all similarity with skiing ends and you are left with a pretty awful game. The ski tips have exactly three positions—left, right and straight ahead—but no matter what position you're in it feels like you're moving straight downhill, only sometimes you're going sideways.

Worse still, there is no way to accelerate, although one would think it would be an easy matter to program the game so that forward pressure on the Joyboard would speed you up. No dice. The only way to adjust the game speed is with the game select button (there are nine speeds) and then it just stays constant as you go down the hill.

The graphics are poor, especially by the standards of perspective set by such VCS games as *Pole Position*, *Enduro* and *Moonsweeper*. *Mogul* doesn't even come close. In fact, it takes quite a stretch of the imagination to even see a slope.

The Joyboard has possibilities but they'll never be realized with games as poor as *Mogul Mania*.

If you don't own a pair of ski poles (or if you don't feel like making little holes in your floor) lean on a table to steady yourself.

STAR TREK II

Sega/Atari VCS

by Michael Blanchet

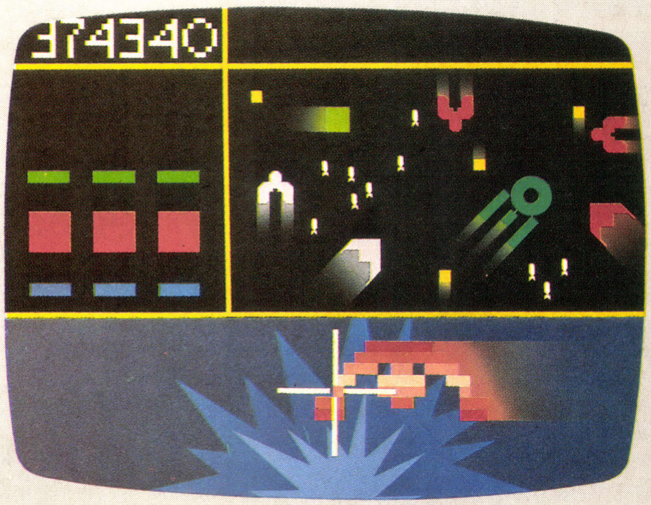
TV stars may be renowned for their nasty habits but never are they accused of tardiness. I think this time around though, Kirk, Spock and the gang have arrived on the scene a bit too late.

Although Sega's home version of *Star Trek* is a dead ringer of its coin-op inspiration, its introduction into the already glutted home market is academic at this point in time. Most gamers, no doubt, have already had their fill of similar first-person outer space shoot-em-ups such as *Starmaster*, *Phaser Patrol*, *Star Voyager* and *Star Raiders*. *Star Trek*, sad to say, treads on some very tired ground.

As in the arcade version, the object of this game is to secure as many sectors as possible. To do so you must blast each and every Klingon ship you encounter. Docking with the friendly green base is not required but is recommended since your shields and firepower are replenished in the process.

Unlike the four aforementioned games, *Star Trek* features three different displays, all of which appear on the screen at the same time. The uppermost section of the playfield is a third person overview of the entire sector. To the left you'll see an information center complete with graphs that measure such vitals as shield strength and power levels. Finally, running along the bottom of the screen is the cockpit view of the sector as seen from the bridge of the Enterprise. Here is where you'll face the Klingons eye to eye.

Although this three screen arrangement looks sophisticated and high-techy, it detracts from the game's playability. The sector map, in my opinion, shouldn't be displayed at all times. Theoretically, it is there for reference purposes only. But since it dominates the playfield, one cannot help but to look at it. In my case, I only glanced at the first person screen



periodically. Why? All the action is on the third person screen. The first person screen then is a useless appendage in this game.

I would have liked this game much better if the third person screen appeared only momentarily at the beginning of each sector. Or better yet, the player could call it up when he needed it as is the case in *Phaser Patrol* and *Starmaster*.

In any game that tries to call itself "first person" a certain degree of depth of field is to be expected. *Star Trek* has none to speak of. The Enterprise cannot really fly per se. It is locked on a fixed altitude. Since this is the case you only need to align yourself with a Klingon ship and move toward it.

Fans of the arcade game and Trekkies will no doubt go bonkers over this cartridge. Be forewarned though—a joystick is substituted for the responsive array of buttons and knobs found on the arcade version. To me the choice of stick over knob seems senseless since altitude never varies. Turns are executed by moving the stick either left or right while thrust is initiated by pushing the joystick forward.

This is one game that hopelessly straddles the fence between first and third person contest. Unfortunately, it succeeds as neither.

PLASMANIA ♪♪♪♪

Sirius/Apple

By Steven A. Schwartz

Shades of *Fantastic Voyage*! You are traveling in a microscopic submarine through the bloodstream of a patient who has a massive blood clot. Reach it in time and save a life!

Plasmania begins with a spoken announcement and a "funhouse" laugh. That's right... *spoken*! Even if the game was terrible (which it isn't), hearing words coming out of the Apple has great novelty value—and scares my dogs silly.

Plasmania may be played at easy, normal, or expert levels. Each level is also offered in an extended play version, so you can actually start at six different levels. Obstacles float freely through the bloodstream. Shooting the ones that are detrimental to the patient's health adds points to your score. Enzymes may be shot in order to release their healing properties. Blood cells, however, must not be shot, since the patient depends upon them for oxygen. Touching the artery walls releases the antibodies, which then must be destroyed. In all cases, collisions with obstacles result in a loss of strength.

The different types of obstacles are released in phases. At the conclusion of each phase, bonus points are awarded. When traveling through your first patient, the obstacles encountered are always of a single type (e.g., defense cells only) with an occasional enzyme thrown in. If you manage to save the patient—by emptying your gun into the blood clot—you may continue with the next one. As the number of successful voyages increases, so do the number and power of the obstacles you must face. Bacteria, for example, require three direct hits in order to be destroyed. In the third and succeeding voyages, defense cells (harmless), minor blood clots (indestructible), and bacteria are all mixed together in the same phase.

As you make your way through the vein, a heart monitor (similar to the ones we've all seen and heard on television) displays the patient's present condition. Each time you make a mistake—by neglecting to destroy a harmful obstacle or by hitting a helpful one—the heartbeat increases in speed and intensity. Since you are also fighting against time (move too slowly and the patient dies), strength is continually lost as the time clock ticks away. Take too long or allow the patient to lose too much strength and you'll hear the heart monitor reduced to a flat, steady drone—you've lost one and the game is over.

Plasmania may not win any trophies for game of the year, but it does offer excellent graphics, superb sound effects, and is fun to play. Although not easily mastered (beware of the expert versions), I think you'll like this one. *Plasmania* is also available for the VIC-20.

Haste makes waste. Move too quickly and you're bound to run into something (or many somethings).

FORBIDDEN FOREST ♪♪♪♪

Cosmi/Commodore 64

By Robert Alonso

When you first load *Forbidden Forest* into your 64 you'll be tempted to look around for a slot in which to insert a token or quarter. In a world where excellence seems to have gone out of style, Cosmi has created an arcade-style game that excels in its use of the Commodore 64's superior graphics and sound capabilities.

The forest is astounding. It comes complete with ponds, background and foreground shrubbery and trees. The scrolling graphics equal the kind of three-dimensional effect that the arcade games *Moon Patrol*

and *Jungle Hunt* create.

The designer of *Forbidden Forest* is extremely concerned with attention to detail. As if the ponds and trees were not enough, he also programmed the sky to darken after awhile to create the ambience of a forest at night. Added to his dark sky are twinkling stars and a man in the moon that sets and rises just as the real moon does.

The player is represented by an archer trying to work his way through the forest. He's equipped with a bow and forty arrows, and must fight his way through a long list of enemies: groups of spiders, a bee, hundreds of bears that fall from the sky, a dangerous dragon, many skeletons (you can shoot these, but they won't die because they are already dead), an angel of death and, finally, the sky master (or monster). In keeping with the quality of the forest graphics, each of these characters is exquisitely detailed.

The gameplay is simple to learn. An arrow must first be drawn by pushing the fire button once. To shoot it, you aim the bow with the joystick and press the fire button again. Many times you will be forced to run like crazy to avoid becoming a tasty meal. If you do become spider dinner, you'll be treated to the sight of yourself being eaten raw—complete with blood.

Forbidden Forest also has a fabulously eerie musical score that plays throughout the game—the best example to date of the quality sound that the Commodore 64 can produce. After each group of enemies is annihilated, the music changes and the archer does a victory dance in the middle of the screen. After the dance, the game action resumes with an even meaner set of adversaries. In short, *Forbidden Forest* is just about the best looking, sounding and playing computer game I've seen in months. Bravo, Cosmi!

Draw an arrow quickly, and then run like mad until you find a safe spot from which to shoot.

SECRET AGENT—MISSION ONE

Jor-And/Apple

By Michael Blanchet

You can keep all your dungeons, dragons, temples, tombs, beasts, creatures and other medieval hoohah. I prefer to do my adventuring in more modern settings a la 007. Those of you who are also tired of trolls etc., should run out and pick up *Secret Agent—Mission One.*

The storyline here is pure Bond. According to the dossier (delivered on screen), one Rupert H. Melton, an erstwhile government-employed scientist with a list of credentials and achievements a mile long, has designed

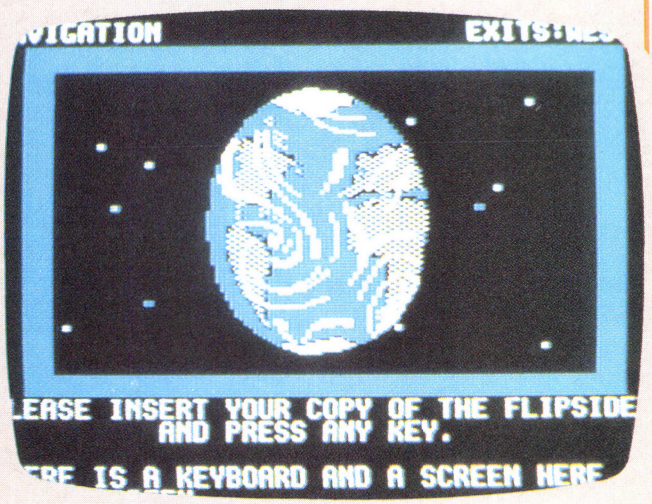
a dastardly device known as the energy synchronizer. Originally his intention was to construct this machine for the government, but a falling-out occurred and Melton retired to an island "off Batanglia". Upon completing the device, Melton decided that he should rule the world, since the E.S. is capable of laying entire cities to waste with a single blast. An ultimatum has now been issued to the United Nations. Unless the world's people recognize Melton as their supreme ruler within 48 hours, he will unleash the power of the E.S. Guess what you have to do? Show of hands of those who said "Stop him!"

This mission is fraught with peril from the very start. Never have I seen an adventure game so laden with pitfalls as this one. In the opening sequence, for example, you'll find yourself aboard a jet heading for Batanglia. After a scant three moves an unseen jet will fly by and waste the pilot with a volley of gunfire. Now if Bond were in a similar predicament, he'd simply throw the corpse aside and take the controls, right? Well, according to this game, doing so would "be useless." There is a way out but it won't be easy to find. In fact, I played no fewer than two dozen very short games before I found the answer to this predicament.

As in all adventure games, you can only use what you find along the way in *Secret Agent.* I found that a bit disappointing since any good spy wears many gadgets and gizmos in his shoes and belt that work in many situations. But in a way, the restrictions add to the game's challenge: instead of blasting your way out of a sticky situation, you gotta think.

Secret Agent's makers describe the game as a "thrilling adventure in hi-resolution with intricate illustrations, sounds, and animation." I'll buy the thrilling part—this game is indeed fun and to a certain degree, exciting—but I won't let them tell me it's full of intricate illustrations. While the animation is well done, on the whole the game has the look of a black-and-white comic strip. If spartan graphics don't bother you, you'll probably enjoy the rest of the game.

Hint: The parachute's in the same place as the pilot.



GRUDS IN SPACE ★★

Sirius/Apple

By Michael Blanchet

I've seen games based on strange subjects before—Kool Aid, the "McDonalds Experience", and the antics of a rock and roll band to name a few—but never have I witnessed a game based on a corporate trademark. That game, believe it or not, has finally arrived. *Gruds in Space*, starring Sirius Software's Grud, is that company's latest adventure. While it looks great, it doesn't play nearly as well as some of Sirius' past offerings, such as *Kabul Spy* or *Critical Mass*.

Your objective in *Gruds in Space* is to deliver some fuel to a "dude" named Lord Deebo. Deebo is stranded somewhere out near Pluto and your ship is the only craft available to make the journey. The game begins aboard a "totally awesome Space Commuter". Here you'll receive your orders as well as the coordinates for your first port of call—Saturn. There you'll first encounter the Gruds. The Gruds are stingy bums and they have the fuel you'll need to complete your mission. You'll also encounter your first frustration here. As often as I tried, I could only get one of those blasted Gruds to speak to me. He, the proprietor of a supply store I stumbled upon, told me that "humans must pay double for anything" and that I "couldn't afford" his prices. Some nerve.

I didn't get very far with *Gruds in Space*. One big stumbling block I encountered was the limited command vocabulary the game is able to fathom. All too often, it counters a perfectly normal command with the dreaded words "Try something else". Granted, finding the proper verb/noun combination is all part of the challenge. But after wading through as many adventure games as I have in the past year, coming up against a brick wall isn't a whole lot of fun anymore.

Graphically, *Gruds* is quite a treat; had this been an arcade-style game, the spiffy visuals would have made a big difference. In the case of an adventure, though, they should be secondary to a good plot and a big vocabulary.

Sure the Gruds are stingy, but you CAN steal from them. Give it a try, you thief.

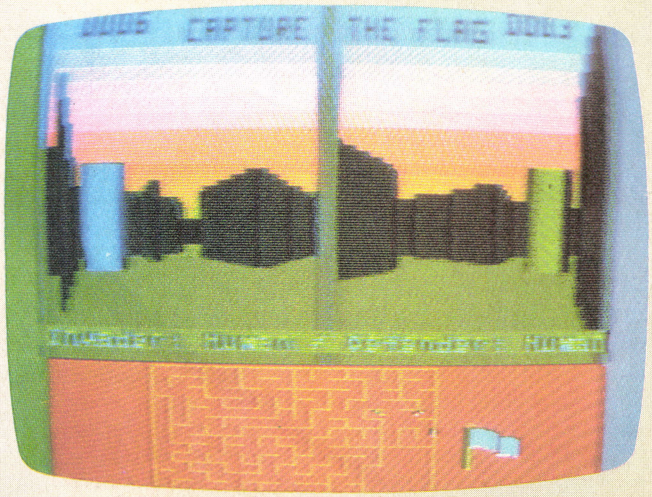
CAPTURE THE FLAG ★★★★

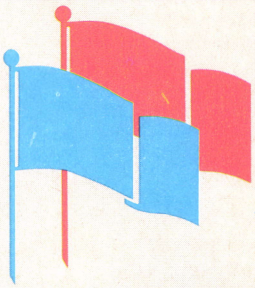
Sirius/Atari 800/1200

By William Michael Brown

I really hate to do this to Sirius designer Paul Edelstein, but if you were all set to buy his maze game *Wayout* because of its incredibly realistic inside-the-labyrinth graphics, save your money and get his *Capture the Flag* instead. *Capture the Flag* not only does everything *Wayout* does, it does it forty times better—adding good game music, welcome movement system improvements, some beautiful graphics touches and (most important of all) fiercely challenging two-player chase action to the basic *Wayout* 3-D maze puzzle.

Turning *Wayout* into a two-player game with few other changes would have been enough of an improvement, but Edelstein has gone whole hog here. Among other things, *Capture* gives you *two* separate 3-D maze views: one for the Invader, who enters screen left and tries to "capture the flag" by racing through the maze to one of the exits marked on the right; and one for the Defender, who enters from the right and tries to stop the Invader by tagging him before he can exit. Much like *Wayout*, each player's 3-D view shows the maze from his current standpoint within it, and there's also an overhead maze map (at the screen





bottom) that displays as much of the maze as the two players have explored up to that point. Unlike *Wayout*, however, the number of mazes is infinite, being randomly re-drawn with each new game. You can also take either of the two roles, and either play solitaire against a very quick computer program or go true two-player against a human opponent. And where *Wayout*'s logical but rather cumbersome movement system made working your way through any maze an agonizingly slow process, *Capture* gives you a two-mode system that sounds weird but works great.

There's also a gorgeous sunburst-colored sky over the maze (unlike *Wayout*'s flat color), the joints between the walls are thicker (making it easier to "read" distances), and bouncy recombinant be-bop riffs come out of your TV speaker (like *Wayout*, the music gets louder as your enemy gets closer). I wouldn't want to push the negative comparisons with *Wayout* too far; the earlier game is a fine piece of work. But it's very rare to see a good game design wholly redone by the same designer; rarer still to see him improve on his original in every single respect.

If you're playing Invader, learn how to use the Walking Movement "fast-turn" feature. It's the only way you'll be fast enough to beat a good Defender.

CRUSH, CRUMBLE AND CHOMP ♪♪♪♪

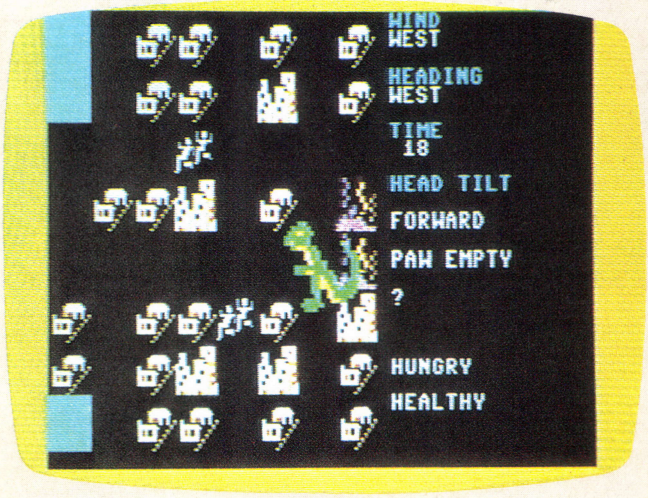
Epyx/Commodore 64

By Randi Hacker

As video game material, grade B monster movies are a natural. You've got your basic conflict—man versus beast. You've got pathos—the raining of bullets, etc. on a poor, misunderstood creature floundering around out of his element. You've got death and destruction, terror and action, fire and other stuff. But most of all, you've got a moral here, namely, if you're bigger than, say, the World Trade towers, it's best not to get mixed up with humans. You probably won't find yourself reflecting on all these philosophical issues each time you play *Crush, Crumble and Chomp* but you will have a really good time.

C, C and C introduces a twist to the old man-vs.-monster theme—you are asked to play the role of any number of monsters, some preprogrammed and one you can create yourself and imbue with myriad destructive talents such as flame breath, the ability to crush everything in your wake and the ability to leave radioactive residue behind you as you stroll through one of four cities—New York, Washington, DC, San Francisco or, of course, Tokyo. As fans of the Atari version will remember, *C, C, and C* also features a cast of thousands including fleeing masses, the National Guard, several brave city officials and the redoubtable Mad Scientist who can go where other valiant fighters dare not tread—through walls of fire, for example. Admittedly, there are a lot of commands to learn and a lot of finger manipulation to be done but this doesn't detract from the game one whit. In fact, it adds to the appeal by giving your monsters unique characteristics.

Played to the background music of *Night on Bald Mountain*, you are the very tall reptile (or whatever



shape you choose ranging from amorphous blob to huge mechanical marauder) leaving ruin in your wake. The tongue-in-cheek instruction booklet provides you with a detailed map of the sections of the city you choose to step on. You reduce landmarks to rubble, set fire to bridges, dodge explosives but most of all, if you are flesh and blood, you must eat. Your appetite is insatiable. The hungrier you are, the more berserk you become and the less likely you are to respond to computer commands with good humor. Food is anything that moves including cars and helicopters. You cannot eat buildings. Not even with ketchup.

While I feel that the graphics on this version could have been dished up a little more elegantly given the superior graphic powers of the C-64, *Crush, Crumble and Chomp* still treats the whole Japanese horror film genre with just the right amount of humor. The game itself gets a little slow after a while, (grabbing food in your clumsy paws is difficult) and you do get tired of always losing no matter how good you get, but, nonetheless, diehard fans will appreciate the chance to destroy a mile in Godzilla's lizard skin shoes. Or something.

Eat, eat. There are monsters starving in Asia.

BEAMRIDER

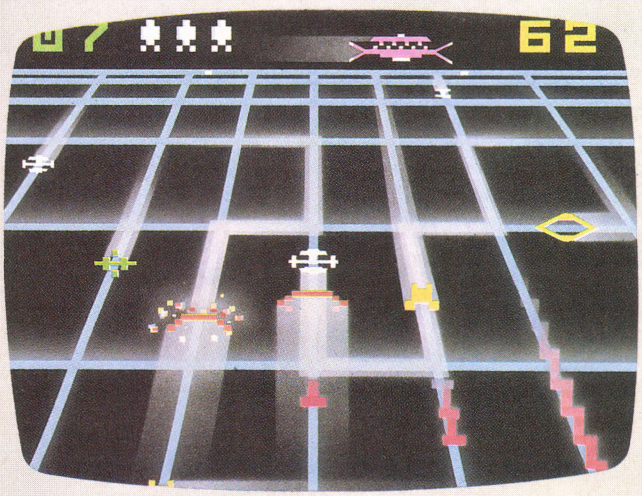
Activision/Intellivision

By Michael Blanchet

While other software companies continue to pump out complex adventures and arcade translations for Intellivision, Activision has wisely opted to offer simple, straightforward shoot-em-ups for this system. Their fifth Intellivision-compatible cartridge, *Beamrider*, is fast, fun and well-suited for use with the Intellivision disc controllers.

Conceptually, *Beamrider* will be nothing new to Intellivision owners. In fact it plays a lot like Mattel's own *Astrosmash* cartridge. *Astrosmash*, though, was only two-dimensional. *Beamrider*, on the other hand, has the look of a 3-D game, thanks to some unique graphic treatment.

As the *Beamrider* pilot, your mission is to smash the Restrictor Shield—a mask 99 layers deep that completely surrounds the Earth's atmosphere. During your quest to reopen the expanses of space to interplanetary travel, you'll encounter a wide array of enemy vessels including yellow chirper ships, green blockers and bounce craft, blue chargers, orange trackers, red zig-zag



streakers, white enemy saucers and, when any one round is completed, the sector sentinel.

The playfield is a matrix of horizontal and vertical lines. Your ship can only move along the lowest horizontal line, and fire up the five vertical paths that intersect with it. Since side-to-side movement is your only concern, the disc controller isn't the nuisance here that it often is in other games.

Points are accumulated by blasting the aliens as they cascade down the vertical axes. In this case, bad guys are blasted with laser lariats. For blasting the sector sentinel, you are given a limited supply of torpedoes which are launched by either lower fire button on the controller housing.

I'm hesitant to call *Beamrider* just another twitch game. Although blasting them before they blast you is the general idea, this game requires a decent amount of good strategy to conquer. Instead of merely accelerating the overall tempo of the game, designer Dave Rolfe has spiced up the action by introducing new challenges as the game progresses. The result is one of those rare shoot-em-ups that actually gets more interesting the longer you play.

This game has a lot of neat features. For example, *Beamrider* can accommodate up to four players on an alternating basis. If one contestant later decides to bow out, he can do so by pressing a drop-out key at the start of his or her turn. The sequence of play then automatically adjusts for the remaining participants. *Beamrider* also has a pause feature.

The graphics manage to replicate a three-dimensional scenario, but it seems that a good bit of the screen space was underutilized. Your ship, for example, can only fire along the five vertical poles, and if your TV is anything like mine, you're bound to lose a bit of the playfield along the east and west sides. The game would have been better if maybe seven or eight axes were packed into the space now occupied by a mere five. As is though, *Beamrider* succeeds as a topnotch shoot-em-up and one sure to please all of you who liked *Astrosmash*.

Never miss a chance to grab a yellow chirper. You need 'em.

SUB ROC

Coleco/ColecoVision

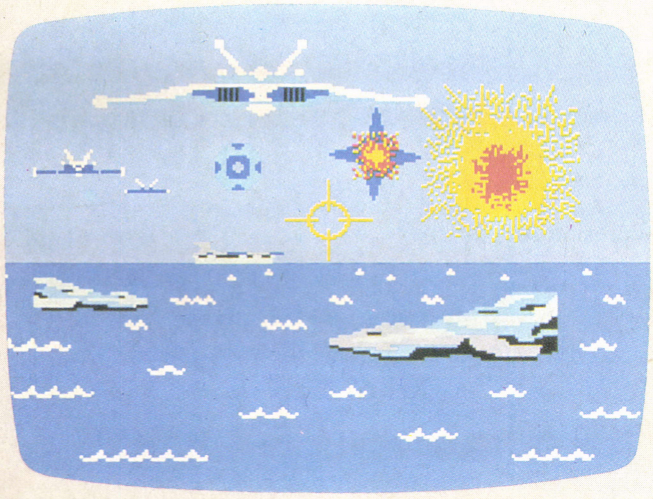
By Michael Blanchet

Fans of the arcade game will undoubtedly notice the conspicuous omission of "3-D" from the title of Coleco's home version. Why isn't it there? Well, this isn't exactly 3-D. It is pretty close, though.

Sub Roc 3-D was another revolutionary coin-op that just didn't make it. It was great to look at, even if it did induce an occasional headache, but it was too tough to play, and basically just another shoot-em-up. To top it off, the perspective was first-person—one of those games that always left players saying stuff like, "Hey, what are you supposed to do?"

Like its coin-op counterpart, Coleco's home rendition of *Sub Roc* minus 3-D has an equally simple objective: just keep blasting at whatever comes your way. These whatevers are many and varied—battleships, flying saucers, drone ships, interceptors, fighters and the command plane. Some of these craft will attack by air, others by sea.

Since you are "it" in this game, you need only adjust the altitude of your crosshairs. When they are at their



lowest point, you are a Sub and fire torpedoes. When the sights climb above the horizon, you are a Roc(ket) and fire missiles. Since the sights are glued to center-screen, you'll also have to move left or right to hit ships not directly in your line of fire.

Attacking ships appear first as little dots; as they close in they loom larger in your viewscreen. Likewise, torpedoes and missiles leave your gun as large as life. As they speed toward their targets they shrink and eventually disappear. This is all fascinating to watch, even hypnotic at times. The game itself, though, is not nearly as appealing as the graphics.

Sub Roc has some quirks that quickly grow into major annoyances. For example, when approaching ships launch torpedoes at you, logic would dictate that by becoming airborne you could avoid them. Not so. For some reason these charges will seek you out and destroy you wherever you are. Furthermore, if you do choose to retaliate, you are barely given a fighting chance. These torpedoes are near impossible to hit because they move so darn fast and are so darn small.

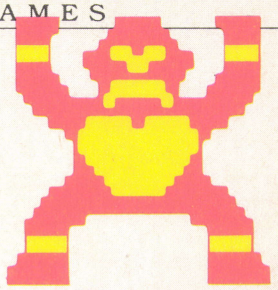
My final criticism is leveled at the person responsible for that ridiculous portion of the instruction booklet entitled "The Fun of Discovery". I racked up over 200,000 points and failed to see even one of the "special features that make *Sub Roc* exciting." How about some tips instead of all this hot air?

Stay in the air. The air targets are simpler to hit and don't shoot back as much.

DONKEY KONG JUNIOR ///

Coleco/Intellivision

By Marc Berman

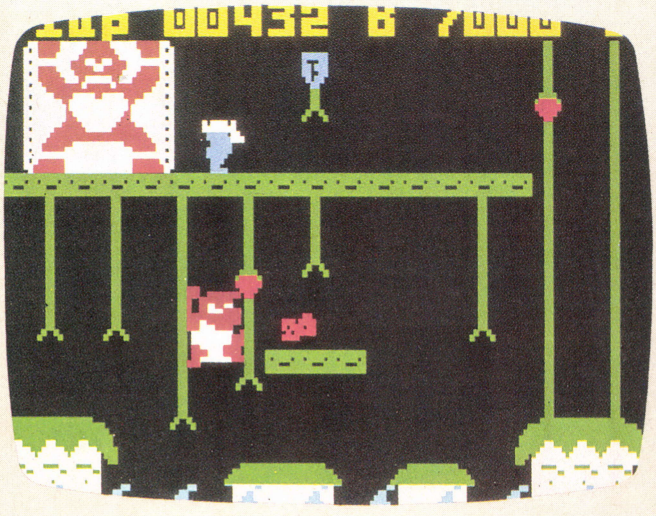


At last count there were seven versions of *Donkey Kong Junior*: the arcade, tabletop, handheld, Coleco cart, Coleco Super Game, Atari 2600 and now, Intellivision. Since it's a complicated game with a lot of graphic elements, the most successful versions have been for the more powerful computers. The less successful (like this one) depend on the player's knowledge of the other versions. In my opinion, that's not a game that can stand on its own two feet—it's a rip-off.

This *Donkey Kong Junior* has more detailed graphics than the Atari 2600. Junior is wearing his familiar muscle shirt and the snapjaws have eyes. The birds look like birds instead of lint and the islands are gaily festooned with greenery, but other details have been ignored. For instance, Mario is blue from head to toe. But, then, you'd be blue too if you were cast in this version. Junior and Papa are lime green. Granted, it could have been something they ate like the weird fruit, but the result is that Junior looks like Kermit the Frog.

There are more features here than on the 2600 version. The 2600 had no fruit but this cart does. There are eight chains in the second screen and on levels two, three and four the birds drop eggs. The third screen, contrary to what the instructions say, is much like the first screen.

The biggest problem with this version is the Intellivision controllers. In a word; inadequate. Wondering if perhaps my own spastic reflexes were to blame, I invited a real *Donkey Kong Junior* ace to try. She had only limited success getting Junior to jump where she wanted. After several tries she threw the controller at my head and left in a huff. I have to agree that the disks are imprecise and the buttons too small to get a decent feel for the game. Furthermore, Junior has to be positioned so exactly before making a jump that the focus of the game becomes finding the magic spot, instead of overcoming the moving obstacles.



On the first screen, slide all the way down the third vine and jump to the extreme right island. Climb the last vine and backtrack to get the fruit.

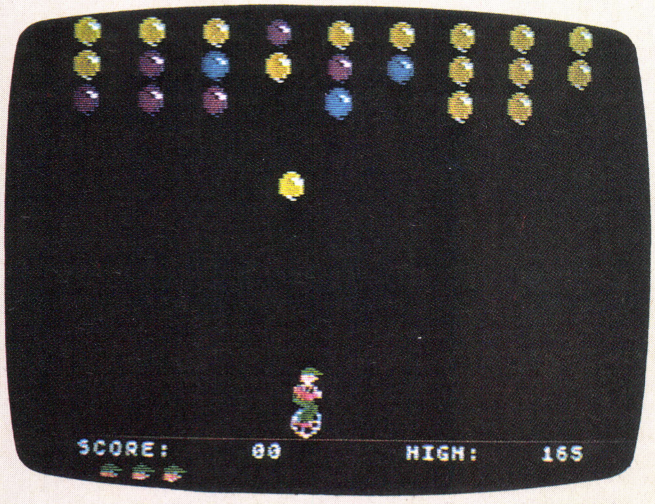
PINHEAD ★★★

Utopia Software/Atari 400/800/1200

By Phil Gerson

Pinhead is a simple, strangely compelling but fun one-player game for the Atari computers. The game puts you in control of Pinhead the clown, a pointy-headed unicyclist, who is riding on a tightrope along the bottom of the screen. Above him are rows of balloons, which fall toward the ground at different speeds depending on their color. You must maneuver Pinhead under the balloon, so that it lands on, and is popped by, his pointy hat. If you miss a balloon, and it hits the tightrope, the vibration will knock Pinhead off the rope to an unseen demise below.

Your only chance if you miss a balloon, is to kick it back up in the air. Pressing the button on the joystick control will cause Pinhead to kick. Successful kicking, however, requires a great deal of practice, and is far more difficult than popping a balloon. After several rounds, other objects also begin to drop. These include such items as keys, candy canes and umbrellas. They can be caught and kicked, just like balloons, and they are worth many more points. The most dangerous



object that falls is a bucket. Unlike other objects, kicking the bucket results in the loss of one of your five lives, so it must be caught on your head and popped immediately.

Pinhead is one of those rare games that doesn't become easy or boring as you get better. Instead it actually becomes more challenging and much more fun. The higher the level you reach, the more interesting the objects you get to see, and the faster the demand on your reflexes.

Pinhead is not a "serious" video game; it doesn't ask you to save mankind. It lets you just have fun being a clown and popping balloons. This attitude is evident throughout the game, from the light music in the background to the cute intermission displays between rounds. This is the perfect game for someone who wants to have a little fun.

To be successful in this game, kicking is a must. I would advise spending a round in which you try to kick everything in order to master the art.

OPERATION WHIRLWIND★★★★

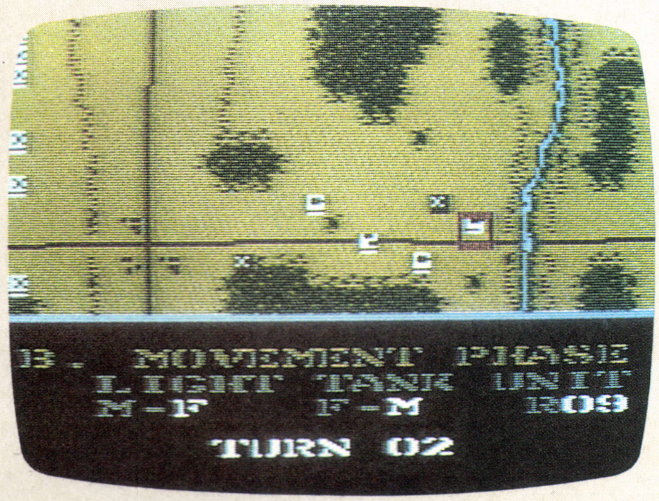
Broderbund/Atari 400/800/1200

By William Michael Brown

It is my signal honor today to award *Operation Whirlwind* author Roger Damon the Distinguished Wargamers Cross, complete with oak leaf clusters for Extraordinary Design Services to frustrated armchair legionnaires everywhere. I am certain I will not be alone in so honoring him. For where many of his designer comrades' games have saddled us with tons of meaningless and annoying detail, dozens of disparate units to co-ordinate, and movement/fire-command systems that are as unwieldy as their boardgame ancestors, Damon's *Operation Whirlwind* plays like a dream: lean, mean, just complex enough to keep you fascinated, and so fast and nasty that you may find it next to impossible to keep a cool head during some of the wilder firefights.

If there are any secrets to *Whirlwind*'s perfection, they probably lie in the type of highly-mobile combat and tactical-level scale Damon chose to model: World War II *Blitzkrieg*-style mechanized ground warfare, as conducted by a single infantry battalion reinforced with heavy artillery, high-speed tanks, combat engineers and long-range reconnaissance units. As Battalion Commander, your job is to take and hold a small town at one end of the scrolling terrain map (about six screens worth). Between you and your objective are 15 kilometers of enemy-held woods, fields, roads, small buildings and villages, two almost impassable rivers with bombed-out bridges and an unknown number of highly determined defenders, backed up by a constant artillery barrage coming from miles away. Since your command is only one of many spearheading an attack on a broad front, you've also got a timetable to meet—fail, and you'll be at the mercy of overwhelming forces that have broken through elsewhere.

Within this small scale (you command a grand total of 31 units) and with joystick-based command mechanics that are almost as easy to manipulate as *Defender*, *Whirlwind* manages to put you in the middle of a realistic depiction of every single tactical situation—short of managing a field kitchen—I've ever heard about



or seen in any other game. Every terrain feature affects your cover/movement/fire/assault capabilities in some way—right down to the rivers, which can be crossed easily without a bridge by infantry and recon, but not by tanks, and provide good cover for all three. All the computer-controlled enemy units (which vary widely in endurance and aggressiveness) start out hidden; the only way to find them is to send the hapless recon boys out to draw their fire. Badly mauled units can dig in for extra cover or to regroup—but while they can still fire while dug in, they can't move or assault and they never regain their original strength. The list goes on, and almost every detail has a real bearing on your overall strategy. Your light tanks, for instance, are the fastest and toughest units on the map—but let them outrun your infantry and you'll leave the grunts to die, and probably find the tanks themselves being cut to pieces during the withering house-to-house fighting in the town.

There'll be no original strategy tip for you here. Damon and Broderbund have capped a great game with an even better manual containing eight solid pages of well-written and useful strategy tips. *Whirlwind*, like the conflict it models, isn't unique or wildly original. But as a synthesis of the best of what wargames have to offer, it has no peer.

MONSTER SMASH

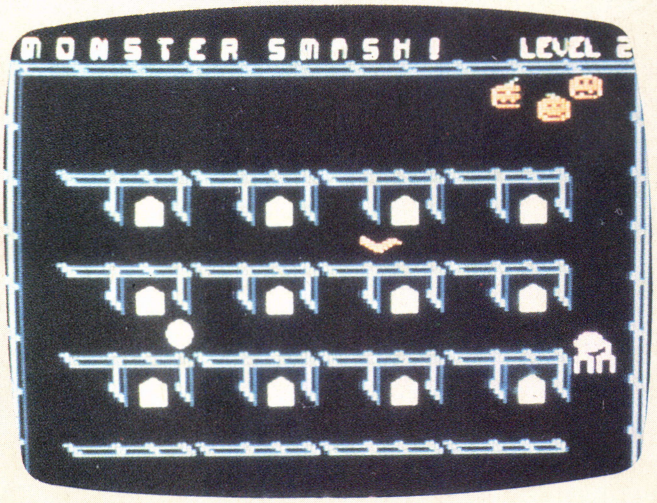
Datamost/Apple

By Steven A. Schwartz

You're working the graveyard shift in (what else?) a graveyard and monsters are on the loose! By carefully controlling a series of gates and gravestones, it's your responsibility to mash the monsters back into the ground before they escape and wreak havoc on a nearby village. Adding to your problems is the fact that some of the townsfolk aren't too bright and occasionally wander through the cemetery. Squish three of them by mistake or allow ten monsters to get away and the game is over.

The gravestones are arranged in three rows of four with a gate above each. In the simplest version, all gates are controlled simultaneously by the number 1 key and all gravestones by the number 9. Thus, by quickly pressing 1 twice (opening and closing the gates), you can force a monster under one of the gravestones. Then a press of the 9 key will squish him. You can start at any of four difficulty levels and, as you improve, the game will give you a chance to move up to the next higher level. This is the *only* way you'll ever get to see levels 5 and 6, so take it if the offer is made.

Monster Smash is packed with special features. The all-time high score is saved to disk with your name or initials. Keys are available to turn the sound effects off and on, pause the game and even quit early and start over if you're doing too poorly. For greater control, you can elect to use keys 1-4 to work a column of gates and keys 6-9 to operate a column of gravestones. I can only recommend this mode, however, to touch-typists and those among you who are *incredible* game players. "Utterly confusing" is a kind description of play in this mode.



The graphics and sound in *Monster Smash* are exceptional. I wish I could tell you that it used the movie monsters that we're all familiar with—it certainly would have been a nice touch—but I guess the designer wanted to create his own. So, rather than squishing Frankenstein and Dracula, you're chasing a crab-like creature, eyeballs, snake eggs and a little fellow who puffs smoke out of his hat.

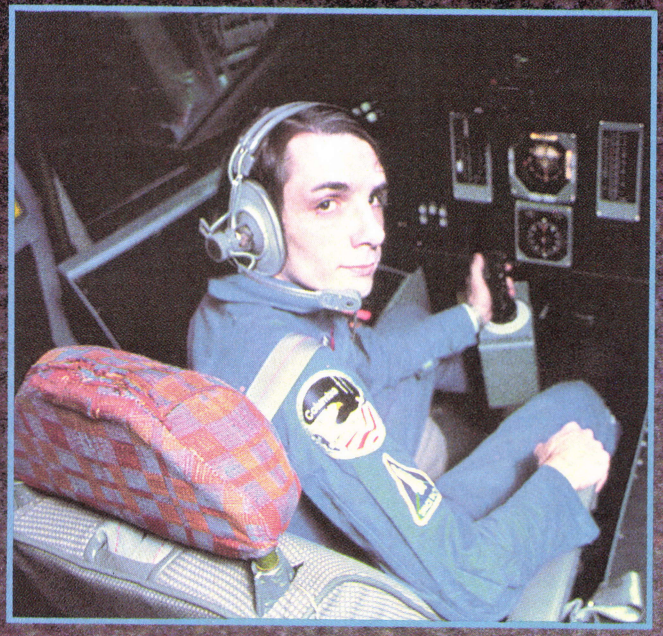
It's plain that a lot of work went into creating the game. All the features aside, however, it's mostly a test of manual dexterity and often an exercise in frustration.

Humans usually get stuck if they run under a gravestone. To avoid squishing them, let them run down a column to the bottom of the screen. They're generally safer there.

GAMEMAKERS

THE SPACE PROGRAM

Steve Kitchen's amazing space shuttle simulation



Sorry, Captain Kirk. Space is no longer the final frontier. Not among game designers at any rate. The final frontier is cramming all the technical aspects of the NASA space shuttle flight and the limitless expanses of space into the very limited memory of the VCS. Steve Kitchen accepted that challenge and succeeded beyond his wildest dreams. His new game Space Shuttle *is not only a fine flight simulation program but also probably the closest thing to actual astronaut training that mere civilians will ever encounter. And it's all packed into one tiny ROM cartridge. Blast off!*

Interview by Randi Hacker

EF: Let's talk about the game SPACE SHUTTLE first. How many years did it take you to do?

SK: From conception to finish, two and a half.

EF: Why don't you tell me about it?

SK: Let's see. It first occurred to me in April of 1980 or '81. I was doing some consulting work, for a company, and the consulting work dealt with some contract with a government agency. I had to meet with government people, nothing dealing with the space shuttle, just general stuff. At one of the discussions in April, the question came up about what people were getting from the space program. People just didn't realize that the entire electronics industry was created by the space program. So we were saying "This is a shame. People don't understand this." They don't. They think that the space program is just sending people up in capsules and coming back down in them. Basically, it's a dramatic show for them, that's it.

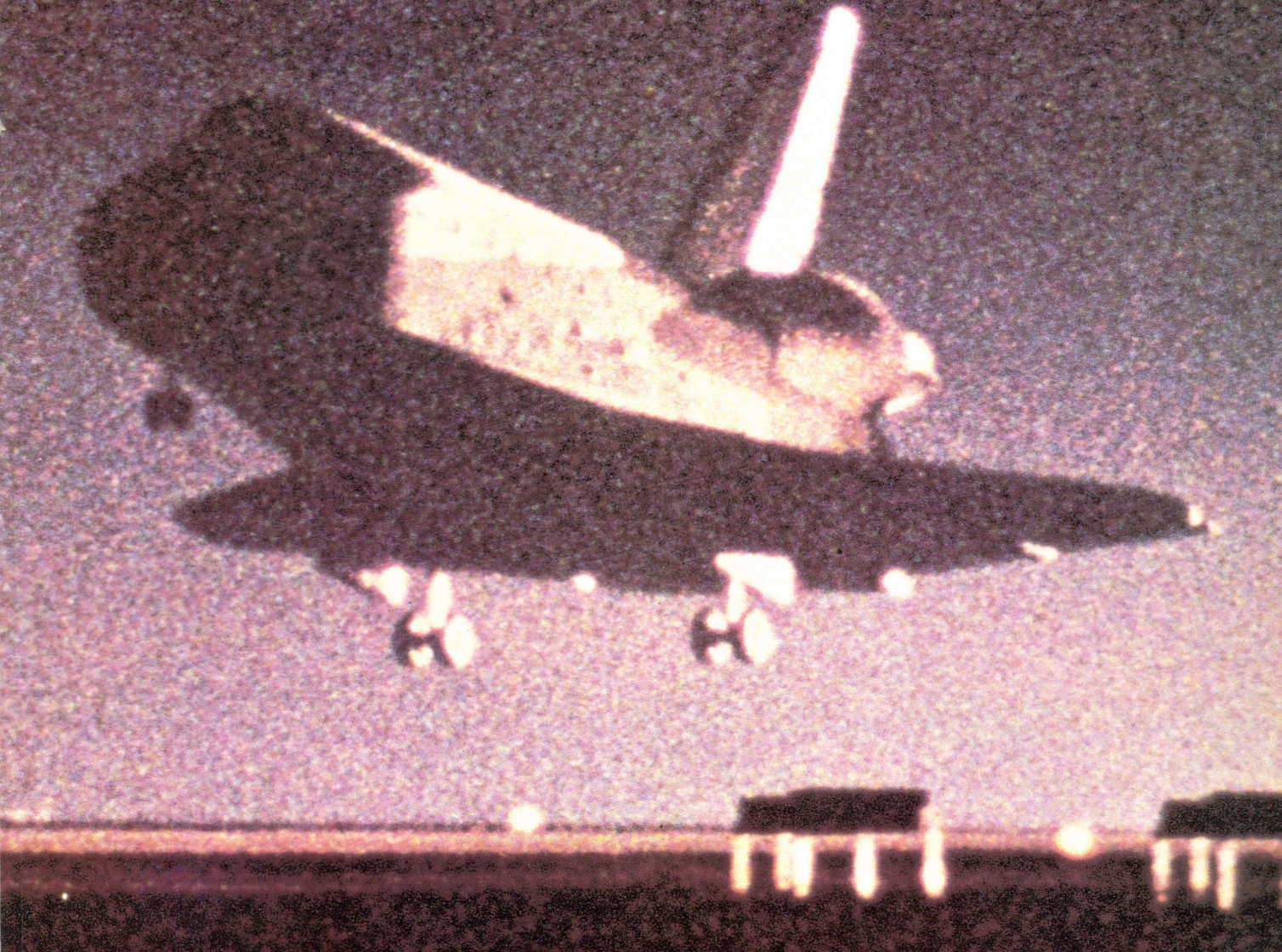
I remembered reading an article saying that during the average year, teenage girls 12 to 17 spend about four billion dollars on teen magazines and that they spend 27 billion dollars in disposable allowance income. Four billion dollars—that's the entire budget of NASA. I said "That's ridiculous. Look at what we're getting out of it and we only spend what girls spend on teen magazines." We didn't even talk about guys and their racing magazines. It's probably ten times as much. So I said, "We gotta do something to get across to the consumer what space really is—bring it into the home."

EF: And thus SPACE SHUTTLE was born?

SK: Conceived. I was striving for something. And from April on, I was trying to decide what it was going to be—a moon landing or an educational game where you check things off. What was it going to be? I knew we had to have some sort of arcade action—it had to be fun or people wouldn't play it.

So around July, I had another meeting. We were talking more about space and about the space shuttle and things like that and suddenly, click. A real space shuttle video game. All of a sudden that's what it was—a space shuttle flight simulator. Immediately I knew that's what I had to do.

But it wasn't that simple. I didn't understand what the space shuttle was. So I realized that I had to sit down and start to learn about the space shuttle—everything about it.



Just like a writer, I had to research my subject in detail, get all the facts and then distill it back out. So I contacted some people at NASA—got a lot of information from them—contacted, directly, the subcontractors, Rockwell, and people like that. IBM sent me materials on the computers for the shuttle. And I got the space shuttle specification book from NASA. A thick, highly detailed incredibly technical manual.

When I first started to read it I thought, I can't believe it. This is going to be some video game! Well I kept going and digging into it. And I finally started to get a working knowledge of what this thing was. Then I arranged to go to the STS2 launch in November of 1981. It actually was supposed to go on the fourth and I think it went on the 12th, after an eight-day delay. So I spent time going around the space center—I took all the tours, went to the museum, talked to scientists there, got a feel for the whole shebang. Then I went to Edwards Air Force Base and watched it land. I even went and sat in the cockpit of a T-38—that's what the astronauts trained in—to see what it feels like and what it looks like.

EF: When did you get to go in the shuttle simulator?

SK: Oh, that was later, towards the tail end of my visit. When we were actually in the nitty gritty of it, then I did. I continued to do research through the early part of the spring.

I knew pretty much what I was going to do around July of '82. I had it all down, had it all mapped out. It was going to be a first-person perspective viewed through the cockpit windshield. I went to the launch of STS4 in July. Then in August, I went in and proposed the game to Activision.

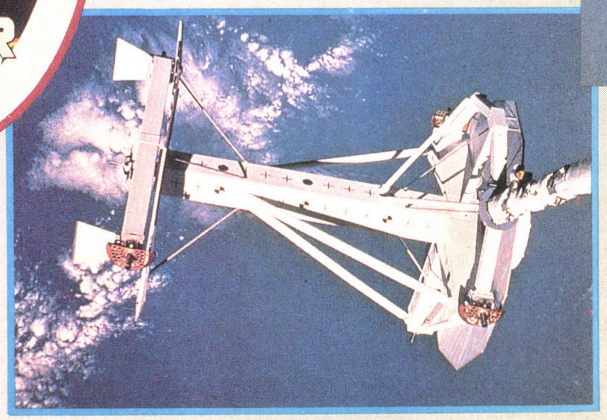
EF: And they thought you were crazy, right?

SK: Some people did but basically, they supported me in it. I drew up the specs and Activision loved it. Now most game companies would have said "This is not a game. Where's the firing button, the rocketships, the laser, the aliens etc?" But Activision loved the idea.

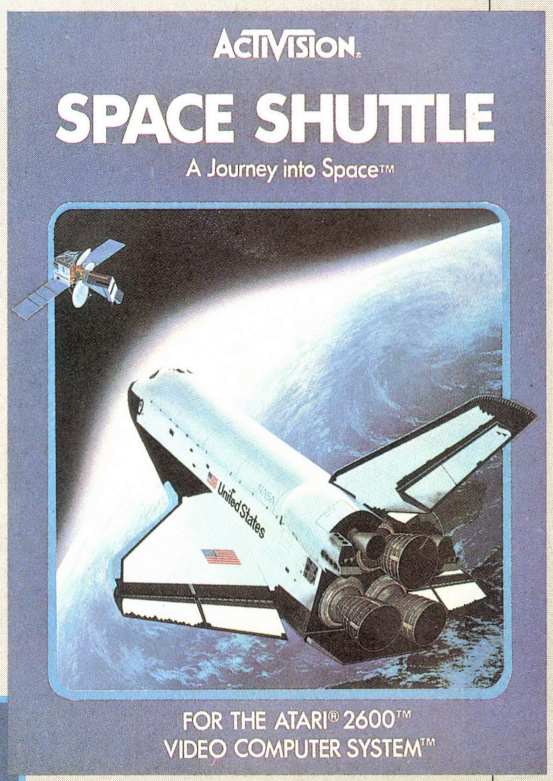
EF: What ever made you decide on the VCS?

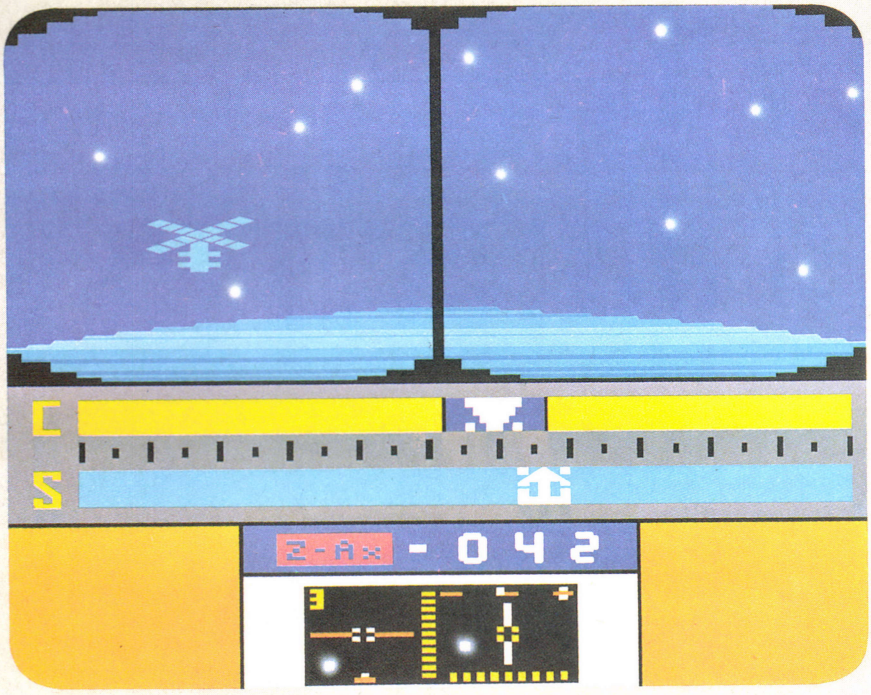
SK: I couldn't decide what machine to do it on. I was originally aiming at a home computer. But no home computer was predominant. And history has shown us, in the home computer market, as short as it's been around, that there is no home computer that actually remains predominant for any long period of time. It shifts from computer to computer. First it was Apple, then Atari was hot, then it was open for a little while. Then IBM was hot. Now Commodore's getting hot. Nobody ever really keeps the lead in this industry. So Tom Lopez, Vice President of Activision, said, "Steve, have you thought about doing it on the VCS?" I had done VCS games before and I said, "Well, that's a relatively crude machine, you know."

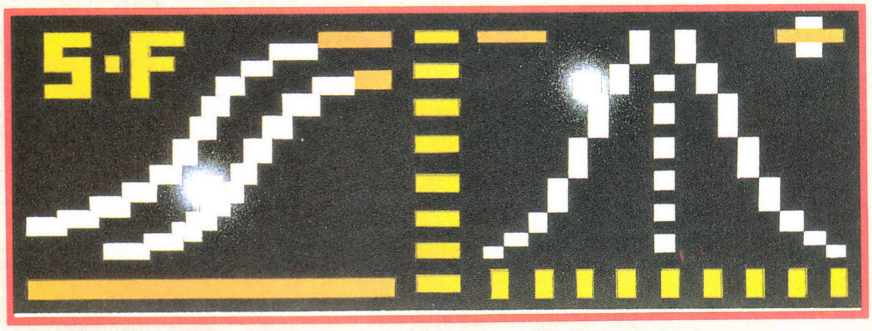
I mean I knew what could be done on it and you can do excellent games if you do it right. But I had to program a whole space machine, you know, with everything that's in a real space mission. And he said, "Well that's exactly what you want, a challenge—isn't it?" The challenge aspect got me. What a challenge, you know? And he said, "You know, if you can do this and do it really, really well it'll be a revolution in the video game marketplace. Because it will be done on a machine people won't expect it to be done on. It'll blow people's minds." Well, that was it. That sealed my fate. I went back and said, "Okay, VCS here we come." Of course I had a lot of problems on the VCS because the VCS has a lot of technical limitations to it. I



Eighty-five pages of coding went into SPACE SHUTTLE. The result is as realistic as a real astronaut's training course. Above, the patch excellent players will receive.







started coding in August of last year.

EF: Other than the fact that it has a limited amount of memory, what other technical limitations are there on the VCS, can you say?

SK: It has a limited capability of displaying objects on the screen. It's public knowledge that the VCS can have only two high-res objects on any one line without some very careful programming. It has relatively coarse background information. But if a game designer understands that, and understands how to work with it, and how to work with the colors, he can work around the problem. *Freeway* is a fine example of working around the problems of the machine. The horizontal movement was set up for the machine. Dave Crane did such an excellent job of utilizing the machine and all of its strange quirks. He produced a game which is excellent for that machine.

The limited capabilities of the VCS also provide incredible capabilities when they're used well. I knew that. I knew I had the theme, and I worked the game so that I got those limitations to work for me.

EF: What was one of the toughest problems to overcome?

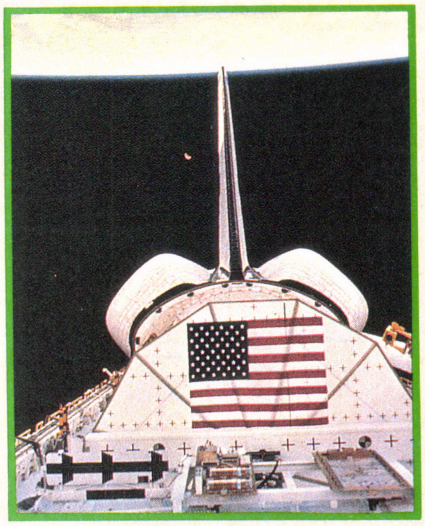
SK: I knew I was going to have problems with the stars.

EF: What kind of problems?

SK: Well, other programmers had already had problems with stars. Al Miller worked months getting the stars in *Starmaster* correct. And I knew if Al worked months on his, that it was not going to be a piece of cake for me. There are 12 stars on the screen. The stars had to be random but they also had to be organized. They had to scroll up at the same time that the satellites stayed stable in the middle, And one big problem on the VCS is positioning objects on the screen. It's very difficult to display something on the same line you're positioning it on. I had to overcome that. And I used some very unique techniques in there that allowed us to get those stars with all the motion and direction. On most cartridges, star motions are two or three lines per star. They jump from line one to line three to line five etc. No one had ever done single line movement of stars—one dot at a time.

EF: It seems to me that every game really provides a whole new set of problems.

Steve's first sketch of the playfield ended up being exactly like the finished product (at left). Orion is hidden among the stars.



SK: Yes, and the designer has to crack those problems.

EF: So just because one has done six successful games, doesn't mean that the seventh is going to be easier, because it's going to have new problems. Is that right?

SK: There are certain canned parts to routines that you get good at. But they're nothing more than just standard. A lot of companies issue the same canned routines all the time. Consequently, a lot of games look the same, Activision doesn't do that. We look at what we're try-

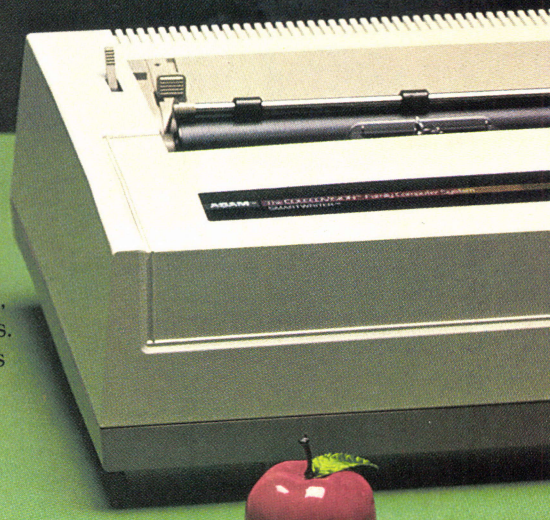
Continued on page 78

COMPUTER WORKOUT:

ADAM AND THE ANSWERS

Eighty K-bytes from The Fruit of Knowledge

Adam, the first man, probably didn't appear just like that. But then, millions of people were not holding their breaths waiting for him as they were for Adam, the first computer that comes with a printer, a cassette drive and a built-in word processor.



By Jules H. Gilder

After much publicity in the newspapers and magazines and after even more "Where is its?" from the panting general public, the long-awaited Adam computer system is finally out. Adam is the first complete, single-package home computer available. Everything is included; from 75-key keyboard to high-speed digital cassette tape drive to letter-quality daisy-wheel printer. With its 80K of built-in RAM, Adam is ready for you to set up and start running the instant you take it out of the box. The only thing missing is a video display but that's easily remedied. Adam hooks up to your TV.

Adam is available in two models: the stand-alone, self-contained computer system which can cost anywhere from $600 to $750 depending on where you buy it and the expansion module which connects to the ColecoVision game system. The latter runs about $400. For this review, the stand-alone system was used.

Adam is really four machines in one. To begin with, it contains a ColecoVision video game machine, complete with two game controllers. All of the cartridges and accessories that were originally developed for the ColecoVision work with Adam and produce the same high-quality sound and graphics. To use the game capabilities, you simply plug in the cartridge, turn the power on and push the cartridge RESET button. That's all there is to it.

But you don't have to use cartridges to play games on the Adam. You can use game cassettes too. The system comes with a free game, *Buck Rogers Planet of Zoom*,

ADAM™ The COLECOVISION™ Family Computer System

which has excellent graphics. A nice feature of the tape-based games is that, like arcade games, the names of the best players can be stored by asking the user to enter his name via the joystick, and then storing it on the digital data pack. This way, even if the power is turned off, the names are always available. Unfortunately, that's the only game currently available on tape and, as we understand it, that's the way it will stay until sometime in 1984.

Typing a quick note or letter is accomplished as easily as playing a game. Maybe even more easily. No cartridge or tape is necessary. You simply turn the machine on. The Adam will automatically go into its electric typewriter mode and send everything you type to both the screen and the printer, just as if you were typing directly on a typewriter.

If you have a more complex writing task, however, you'll probably want to use Adam's built-in word processor. This is accessed from the electric typewriter mode by simply pressing the word processor key. From that point on, everything you type will appear only on the video screen. Text on the screen is displayed at 36 characters per line. The high-resolution graphics capabilities are used in the word processor mode to draw a typewriter roller near the bottom of the screen and vertical and horizontal margin markers. These margin markers are very helpful because they show you where on a page your text will appear. This is important because the Adam does not display the full 80 columns and 66 lines normally possible on a standard 8½-by-11-inch sheet of paper.

The word processor built into Adam is a fairly capable one, but it has some faults. To begin with it is slow. This slowness is not manifested in the input, which is fast enough to keep up with even the speediest typist, but shows up when you want to move from one part of the document to another. Movement is done via the cursor control keys and can be done either one line at a time by pressing the up or down arrow keys or several lines at a time by pressing one of the arrow keys and the HOME key together. But even when moving several lines at a time, the scrolling is so slow, that it can become quite annoying.

While the word processor has some advanced capabilities built into it, such as the ability to do subscripts and superscripts, it is lacking others. One important feature it does *not* have is boldfacing. With letter-quality daisy-wheel printers such as the one provided with Adam, it is generally possible to produce boldfaced text by printing a letter, moving the print head a fraction of an inch, and printing the same letter again. If the movement is small enough, this double printing appears as a bolder character. It's not clear whether the limitation is in the printer or simply the program, but in any case, boldfacing is currently not available.

Another annoying feature of the word processor is that in order to implement many of the functions, several keystrokes must be performed. For example, to delete text, you have to press the DELETE key, then move the cursor to the first letter of the word to be erased, then press the HI-LITE key, *then* you use the right arrow key to highlight all of the text that is to be deleted, *then* press the HI-LITE OFF key and *then* press either the FINAL DELETE or the DELETE keys. This inconvenient arrangement makes the word processor a little tedious to use.

One final note on the word processor: it is likely that at some future date Coleco will come out with a

Photos: Andrea Brizzi

Adam comes with a 75-key keyboard (top right) digital data cassette drive (above) and printer (top left). The system also comes with one game on tape—BUCK ROGERS PLANET OF ZOOM. Although this is the only game on tape so far, Adam is compatible with all the cartridges that currently play on the ColecoVision system. You don't need a cartridge to take advantage of Adam's built-in word processor. All you have to do is turn the machine on and press the proper key. For less complex tasks, Adam gives you an electric typewriter mode. Everything you type goes directly to the screen and letter-quality daisy-wheel printer.

modification of its word processor. There is one key on the keyboard (labelled WILD CARD) that is reserved for future expansion, and it could be used to permit a wild card search for text in the word processor.

In addition to being a video game, electric typewriter and word processor, Adam is also a personal computer. While it uses a total of six microprocessors, the micro used for the computer part of it is a Z80A chip. A second micro, this one a dedicated video display processor, the TI 9918, is used to handle output to the video screen. This chip has 16K of RAM that is used only for display memory. This memory is not directly accessible from BASIC and so it is not possible to POKE data directly into screen memory. This is a pity because most other personal computers that are available today use a memory-mapped screen that is accessible from BASIC and it often makes it easier to write programs.

The other four micros in the system are all 6801 microprocessors. One is used as a system controller, one to control the tape drives, one to control the printer and the last to control the keyboard.

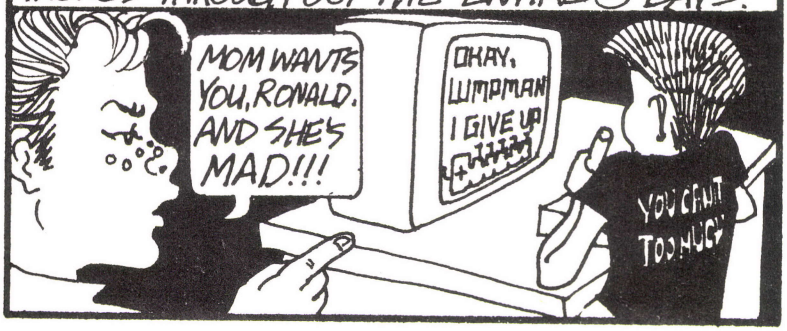
If you look at the Adam's spec sheet you might think you're getting more of a computer than you really are. For example, it touts 80K of RAM. The Z80A can only access 64K of RAM at one time, but as I've mentioned earlier, 16K of the 80K is already dedicated to the video display. Of the remaining 64K about 38K is taken up by the BASIC interpreter, the graphics routines and the operating system. This leaves only about 26K of RAM for user programs. While this is significantly less than the 80K advertised, it is certainly enough for most BASIC applications. If you need more memory, however, sometime in 1984 Coleco will be selling a 64K add-on board that will up your computer's memory to 144K. Through the use of bank switching techniques, all of this additional memory will be available to BASIC. By the way, with the word processor built into ROM, most of the 64K is available for word processor use.

The design of this computer is a bit confusing. If you look at the spec sheet it will tell you that the video display is composed of lines 36 characters long. Yet if you count the characters displayed on a BASIC program listing, you'll find that it is only 31 characters long. The 36 characters refers to the word processing mode only. For some strange reason, they change the display mode to 31 characters for BASIC. Other specs are similarly confusing. Coleco literature talks about an omni-directional cursor movement capability using the game controller joystick, the ability to enter numbers from the controller's numeric keypad, the ability of the printer to operate in a bi-directional printing mode and the

Continued on page 76

GREAT THINGS CAN HAPPEN WHEN YOU PUT ON AN ELECTRONIC FUN T-SHIRT

RONALD LUMPMAN OF LUMPMAN, WASHINGTON PUT ON AN **ELECTRONIC FUN T-SHIRT** AND PROCEEDED TO BEAT HIS OLDER BROTHER ELMO, 300 MILLION TO 20 AT "CENTIPEDE." THIS, DESPITE ELMO USING DIVERSIONARY TACTICS THROUGHOUT THE ENTIRE 3 DAYS!



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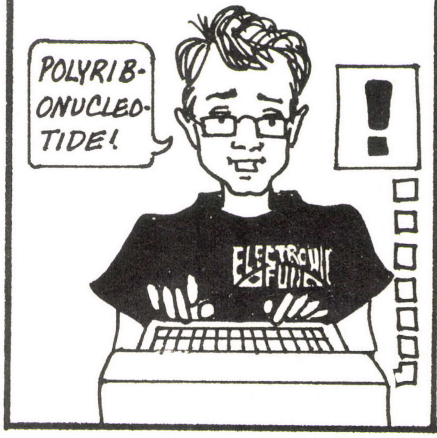

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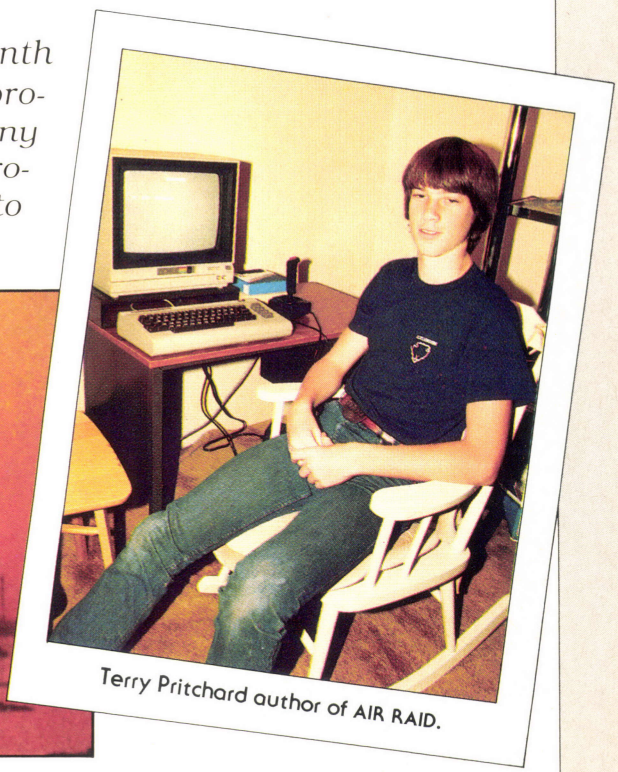
FIRST SCREENING

AIR RAID

We're waiting to discover you. Send us a program you've written and maybe we'll publish it and send you $100. Be sure to include a cassette or disk, a printout, your picture, and to tell us which system it's for. Send a brief description of the program as well.

This month's winner is Terry Pritchard, a tenth grader from Bolton, Ontario. Terry has been programming for about a year and has written many games for the Commodore 64. He says computer programming is a fine hobby, but he does not plan to make a career in that area.



Terry Pritchard author of AIR RAID.

THE GAME

Air Raid is an arcade-style game for the Commodore 64. While some other games might ask you to save fictitious cities such as New York, this just didn't do the trick for the Canadians. That's why, in this game, your job is to defend *Toronto* from an all-out ICBM attack. You eventually lose (bye-bye CN Tower) but in the process the real object is to score as high as possible. You can use either a joystick in port two, or the keyboard. The exact keys are listed in the game's instructions, which appear on the screen before you start to play. (I find the joystick easier.)

It's a good idea to type the game and save it before you run it. This way, in case you make a typing error you won't necessarily crash the 64. The first thing you'll be asked when you run the game is whether or not you want instructions. Any reply starting with a "Y" will give them to you. The machine will then ask you whether you want to use the joystick or the keyboard. That choice is, of course, all yours.

When the game itself starts, Toronto's skyline will be drawn at the bottom of the screen right before your eyes (a new skyline is generated each time you play). After this, you'll hear an air raid siren, and then you're ready to save Toronto from destruction—if you can. The instructions on the screen will tell you how to play. Good luck!

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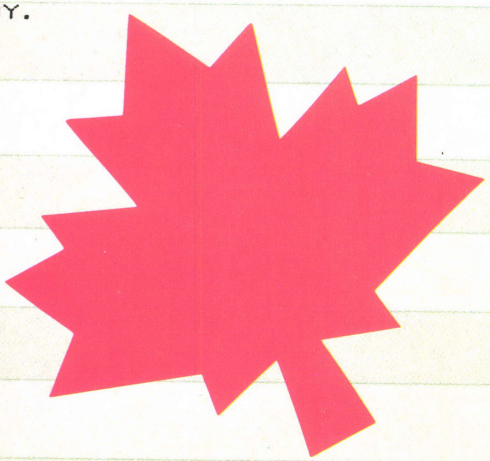
0 REM
1 POKE 53281,0:PRINT"■"
2 FORI=54272TO54272+24:POKEI,0:NEXT
10 REM DUMMY LINE SCRAMBLER
20 SC=1024:REM IF PET SC=32768
30 KP=197: REM IF PET KP=??
40 PRINT"■"
50 PRINTTAB(15)"■ AIR RAID ■"
55 PRINT"■■■■■■■BY TERRY PRITCHARD"
60 FORI=1TO117
70 GET R$:IF R$<>"" THEN 100
80 NEXT
90 PRINT"■":FORDE=1TO117
91 GET R$:IF R$<>"" THEN 100
92 NEXT:GOTO 40
100 PRINT"■■■"
110 INPUT"NEED INSTRUCTIONS";IN$
120 IF LEFT$(IN$,1)="Y" THEN GOSUB 1100
121 INPUT"■K■EYBOARD OR ■J■OYSTICK";J$
122 IF J$="K" THEN KJ=0:GOTO 130
123 IF J$="J" THEN KJ=1:GOTO 130
124 PRINT"PRESS ■K■ OR ■J■, PLEASE.":GOTO 121
130 PRINT"■"
131 IF PEEK(1444+54272)<>0 THEN 140
135 FORDE=1024+54272 TO 2023+54272:POKEDE,1:NEXT
140 X=SC+(40*12)+19:GR=SC+21*40:LT=19
141 XP=0:S=0
145 DIM MP(5),SW(5)
150 GOSUB 1700
151 GOSUB 1800
155 LV=.98
160 REM MISSILE POSITIONS
165 FORI=1 TO 5
170 MP(I)=SC+INT(40*RND(1)):SW(I)=0:NEXT
180 SW(1)=1
200 POKE X,91
210 FOR I=1 TO 5
220 IF SW(I)=1 THEN GOSUB 600
230 NEXT
232 LV=LV-.0003:IF LV<.4 THEN LV=.4
235 OX=X:OL=LT:IF KJ=1 THEN GOSUB 1600:GOTO 300
236 FOR J=1 TO 3
240 R=PEEK(KP)
250 IF R=30 THEN X=X-40:IF X<SC THEN X=X+40
260 IF R=34 THEN X=X+40:IF X>SC+999 THEN X=X-40
270 IF R=47 THEN X=X-1:LT=LT-1:IF LT<0 THEN LT=LT+39:X=X+39
280 IF R=44 THEN X=X+1:LT=LT+1:IF LT>39 THEN LT=LT-39:X=X-39
290 IF R=60 THEN GOSUB 700
295 NEXT
300 FOR I=1 TO 5
310 IF SW(I)=1 THEN 330
315 IF RND(1)<LV THEN 330
320 SW(I)=1:MP(I)=SC+INT(40*RND(1))
330 NEXT
340 IF XP>4 THEN 1000:REM GAME OVER
400 POKE OX,32:POKE GR-40+OL,32:GOTO 200
597 REM
598 REM      MOVE MISSILE
```

```
599 REM
600 POKE MP(I),32:MP(I)=MP(I)+40:POKEMP(I)+54272,7:POKE MP(I),90
601 POKE MP(I)+54232,1
610 IF MP(I)=>(GR+40)THEN 800
620 RETURN
697 REM
698 REM      PLAYER SHOOTS
699 REM
700 FOR I=(GR-120+LT) TO X STEP -40
710 POKE I,66:POKEI+40,32:NEXT
720 RESTORE:POKE X,160:FORI=1TO12:READZ2:POKEX+Z2,160:NEXT:HI=2:LO=128
721 GOSUB 1500:FORI=1TO5
722 IF SW(I)=0 THEN 729
723 IF PEEK(MP(I))=90 THEN 729
725 SW(I)=0:S=S+75:GOSUB 1500
729 NEXT
730 RESTORE:POKE X,32:FORI=1TO12:READZ2:POKEX+Z2,32:NEXT
750 FOR I=(GR-80+LT) TO X STEP -40
760 POKE I,32:NEXT:RETURN
797 REM
798 REM      MISSILE EXPLODES
799 REM
800 POKE MP(I),102:SW(I)=0
805 HI=2:LO=38:GOSUB 1500
810 RESTORE:FOR Z=1 TO 7:READZ2:POKEMP(I)+Z2,160:POKEMP(I)+Z2+54272,7:NEXT
820 POKE53281,2:FORZ=1TO7:READZ2:POKEMP(I)+Z2,160:POKEMP(I)+Z2+54272,7:NEXT
830 RESTORE:FOR Z=1 TO 7:READZ2:POKEMP(I)+Z2,32:NEXT:FORDE=1TO25:NEXT
840 POKE53281,0:FORZ=1TO7:READZ2:POKEMP(I)+Z2,32:NEXT:POKE MP(I),32
850 XP=XP+1:RETURN
860 DATA -40,-1,1,40,-80,-2,2,80,-39,-41,39,41,81,79
997 REM
998 REM      GAME OVER
999 REM
1000 PRINT"■■■■■■■■■"
1010 PRINTTAB(14)"GAME OVER"
1020 PRINT"■■"TAB(13)"SCORE:";S
1021 Q$="THE KEYBOARD":IF KJ=1 THEN Q$="A JOYSTICK"
1022 PRINTTAB(11)"USING ";Q$
1023 FORQQ=GR-40 TO GR-1STEP 3:I=1:MP(1)=QQ:GOSUB 800:NEXT
1024 END
1025 FORI=1TO10:GET R$:NEXT
1030 CLR:END
1100 PRINT"■"
1110 PRINT"    YOU ARE IN CHARGE OF DEFENDING"
1120 PRINT" TORONTO FROM AN ICBM ATTACK. YOU"
1130 PRINT" HAVE AN UNLIMITED AMOUNT OF "
1140 PRINT" ANTI-MISSILE MISSILES (AMM'S)."
1145 PRINT" TORONTO CAN SURVIVE 4 MISSILE BLASTS
1150 PRINT" BEFORE IT IS TOTALLY DESTROYED.":PRINT" USE A JOYSTICK OR■"
1160 PRINT"    USE THE ■U■ AND ■J■ KEYS TO MOVE"
1170 PRINT" YOUR GUNSIGHT UP AND DOWN."
1175 PRINT
1180 PRINT"    USE THE ■,■ AND ■.■ KEYS TO MOVE"
1190 PRINT"■    THE SPACE BAR FIRES YOUR AMM'S"
1195 PRINT"■■"TAB(5)"PRESS ANY KEY TO START"
1196 GET R$:IF R$="" THEN 1196
1197 RETURN
```

```
1497 REM
1498 REM        EXPLOSION SOUND
1499 REM
1500 POKESV+23,0:SV=54272:POKESV+24,15:POKE SV+1,HI:POKESV,LO
1510 POKE SV+5,0:POKESV+6,140:POKE SV+4,129:FORDE=1TO20:NEXT:POKESV+4,128
1520 RETURN
1597 REM
1598 REM      JOYSTICK ROUTINE
1599 REM
1600 FOR J=1TO3
1610 JY=127-PEEK(56320)
1620 IF JY=1 THEN X=X-40:IF X<SC THEN X=X+40
1630 IF JY=2 THEN X=X+40:IF X=>GR THEN X=X-40
1640 IF JY=4 THEN X=X-1:LT=LT-1:IF LT<0 THEN LT=LT+40:X=X+40
1650 IF JY=8 THEN X=X+1:LT=LT+1:IF LT>39 THEN LT=LT-40:X=X-40
1660 IF JY>15 THEN GOSUB 700
1670 NEXT:RETURN
1697 REM
1698 REM        DRAW CITY
1699 REM
1700 FORI=1984 TO 2023:POKEI,160:POKEI+54272,12:NEXT
1710 FORI=1944 TO 1983
1720 IF RND(1)>.1 THEN POKEI,160:POKEI+54272,12
1730 NEXT
1740 FORI=1904 TO 1943
1750 IF RND(1)>.2 ANDPEEK(I+40)<>32 THEN POKEI,160:POKEI+54272,12
1760 NEXT
1770 FORI=1864 TO 1903
1780 IF RND(1)>.3 ANDPEEK(I+40)<>32 THEN POKEI,160:POKEI+54272,12
1790 NEXT:RETURN
1797 REM
1798 REM        AIR RAID SIREN
1799 REM
1800 FORDE=54272TO54272+23:POKEDE,0:NEXT:
1810 SV=54272:POKESV+24,5:POKESV+5,0:POKESV+6,240
1820 POKE SV+2,0:POKESV+3,8
1830 POKE SV,50:POKESV+4,65
1835 FORG=1TO2
1840 FORDE=40 TO 80:POKE SV+1,DE:FORI=1TO50:NEXT:NEXT
1845 FORDE=79 TO 40 STEP-1:POKE SV+1,DE:FORI=1TO50:NEXT:NEXT:NEXT
1850 POKESV+4,64:RETURN

READY.
```



In order for us to consider your entry, we need the following items: a complete computer program, a brief game description, photographs or drawings of the graphics, a picture of you and a self-addressed, stamped envelope. Send it all to: First Screening, Electronic Fun, *350 East 81st St., New York, NY 10028. Include your phone number so we can reach you.*

FIRST SCREENING

RACER II

You asked for it and you got it. Two First Screenings. We plan to include more than one in each issue of EF *from now on. Two winners means that two checks for $100 will be sent out to two lucky young programmers. The rules for the second First Screening are the same as the first: you must send a complete computer program printout, a brief description of your game, a disk or cassette of the completed game, a short biographical sketch of yourself and a picture of you. This month's second First Screener is Jerry LeMaitre. Jerry is a 16-year-old student at Collingwood Collegiate school in Collingwood, Ontario. He has an Atari 400 on which he's been programming for one and a half years.*

Jerry LeMaitre, author of RACER II

THE GAME

Racer II is a simple driving game which I wrote four months ago. It will play on any of the Atari computers. You maneuver your car by using the joystick which should be plugged into joystick port one. You can also use the arrow keys but, personally, I find it easier to drive with the joystick.

When the graphics come on, you'll find yourself at the start of a race course. The road is bordered by a string of lights. These lights mark the guardrails over which you must not drive unless you want to die. There should also be a black and white checkerboard at the bottom of the screen with the word "Start" inside it.

The object of the game is to drive for as long as you can without colliding with the guardrails or spinning out by hitting one of the oil patches that are scattered along the course. The oil patches are randomly generated and won't show up in the same place twice. This means that each course you drive is a different one. The road takes some pretty sharp curves so be alert and look ahead for dangers.

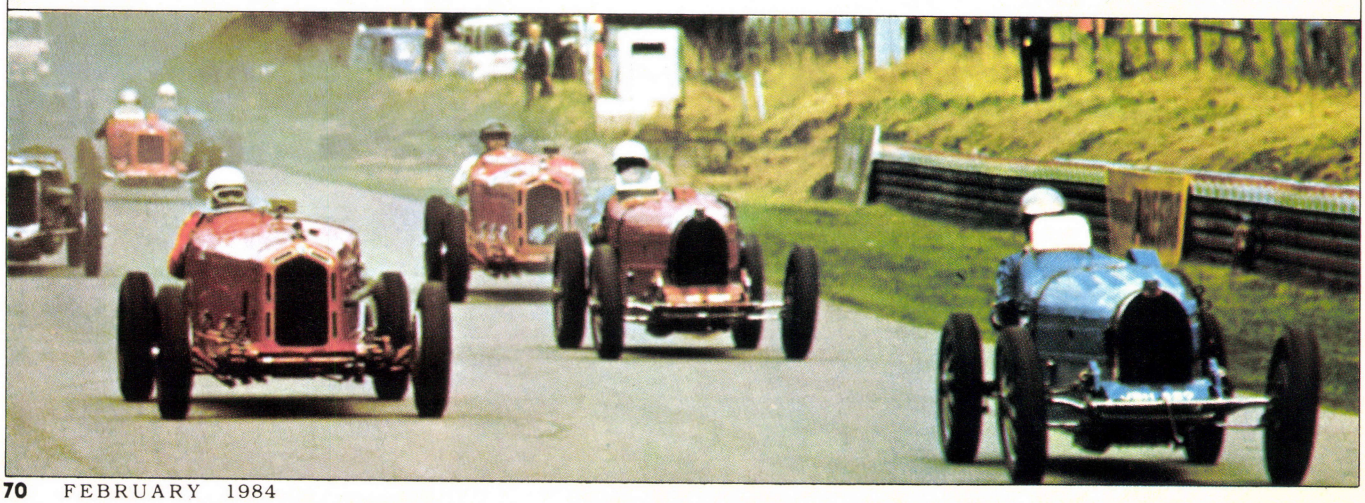
FINAL RECKONING

Your final score depends on how long you stay on the road. The longer you drive, the higher your score. After the score has been displayed, just press the fire button on the joystick or the space bar on the computer in order to start another game.

The game starts out fairly easy and you should have no trouble getting at least 200 points on your first few tries. It becomes more difficult the better you get and the longer you stay on the road without crashing. This is what separates the Mario Andrettis from the Sunday drivers. My highest score so far is 450 points.

```
10 REM      RACER
20 REM  by Jerry Lemaitre
30 REM
40 GOSUB 1000
50 REM  MAIN LOOP
200 X=X+SM(PEEK(STK))+KM(PEEK(KY)):POKE XPOS,X:IF N20*RND(N0)>N18 THEN ZM=-ZM
210 POKE KY,N0:IF PEEK(HIT) THEN GOTO CRASH
211 IF Z<N4 THEN Z=N4
212 IF Z>N20 THEN Z=N20
216 IF V/N70=INT(V/N70) THEN SK=SK-N1
220 Z=Z+ZM:POSITION Z,N0:? D$:IF N99*RND(N0)>N97 THEN POSITION Z+SK/N2,N0:? OIL$
230 POSITION Z+SK,N0:? DN$:V=V+VM:GOTO ST
250 REM  END OF GAME
400 POKE XPOS,X-4:POKE 53256,N1:POKE 704,15
410 SOUND N0,N4,8,14:FOR T=N1 TO 111:NEXT T:FOR T=16 TO N0 STEP -N1:POKE 704,T:F
OR Q=N1 TO 6:NEXT Q:NEXT T
420 FOR T=14 TO N0 STEP -N1:FOR Q=N1 TO N4:NEXT Q:SOUND N0,N4,8,T:NEXT T
430 POKE XPOS,N0:GRAPHICS 17:POKE 53278,N0:POSITION 5,5:? #6;"sCoRe ";INT(V):POK
E KY,N0
500 IF STRIG(N0) AND  NOT PEEK(KY) THEN 500
510 RUN
1000 REM  INITIALIZATION
1074 N2=2:N4=4:N20=20:STK=632:KY=764:N18=18:CRASH=400:N70=70:N1=1:VM=0.7:XPOS=53
248:HIT=53252:N99=99:N97=97:ST=200
1080 GRAPHICS N0:SETCOLOR N2,N0,N0:POKE 752,N1:Z=11:ZM=N1:SK=17:V=0.7:DIM SM(15)
,KM(255),OIL$(3),D$(N1),DN$(N2)
1082 OIL$="OIL":D$="'":DN$="'↓'"
1084 FOR I=0 TO 255:KM(I)=N0:NEXT I:FOR I=0 TO 15:SM(I)=N0:NEXT I
1086 KM(6)=-N4:KM(7)=N4:SM(11)=-N4:SM(9)=-N4:SM(10)=-N4:SM(7)=N4:SM(6)=N4:SM(5)=
N4
1100 I=PEEK(106)-8:POKE 54279,I:PB=I*256:FOR Q=PB+512 TO PB+640:POKE Q,N0:NEXT Q
1110 X=122:Y=77:POKE 704,86:POKE 559,46:POKE 53277,3:POKE XPOS,X:POKE 53256,N2
1120 FOR Q=N0 TO 11:READ QQ:POKE PB+512+Y+Q,QQ:NEXT Q
1130 DATA 90,126,90,24,60,36,36,189,255,255,189,36
1132 FOR B=N0 TO 11:POSITION 13-B,B:? "'";:POSITION 28+B,B:? "'":NEXT B:POSITION
 N2,19
1141 ? "  ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ "
1142 ? "    ▪ ▪ ▪ ▪  START!  ▪ ▪ ▪ ▪ ▪ ▪    "
1143 ? "  ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ "
1144 ? "    ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪ ▪    "
1150 FOR T=1 TO 111:NEXT T:SOUND 0,97,6,8:RETURN
```

In order for us to consider your entry, we need the following items: a complete computer program, a brief game description, photographs or drawings of the graphics, a picture of you and a self-addressed, stamped envelope. Send it all to: First Screening, Electronic Fun, *350 East 81st St., New York, NY 10028. Include your phone number so we can reach you.*



hacker's helper

Git along little aliens

By Robert Alonso

Last month I showed you how to spice up your programs with custom characters, but what do you do once you have your little alien all set to go? You could let it sit idly on your screen, or passively sit back and watch it scroll using last month's program, but you probably would rather get some action. Chances are you'd like to be able to move it with your joystick so that you can create your own games. (Don't worry if you don't have last month's programs, condensed versions are included within this month's programs.)

Alien Control

Controlling a character with a joystick is a six-step procedure. The first steps are to read the value in the memory location corresponding to joystick movement, and then assign a value to a variable that later is used for the actual screen movement. Next you must have a border checking routine to make sure that your character doesn't go off the screen. Finally, you erase the character from its current screen location, then place it in the new location. If all this intimidates you, don't worry—it will be very clear by the time you finish reading.

The first step to controlling any character with your joystick is to read either a memory location (on the Commodore computers) or system variable (called STICK(X) on the Atari systems) that tells your program in which direction the joystick is being pushed. After this location is read, you must then add a number to the current location of your character to prepare it to move in that direction. This number will vary according to the screen format of your computer. In my programs, I choose to use the variable L for location and D for the number which must be added to that location to move it. You, however, can use whatever letters you like as long as you use them consistently throughout the program.

It's a good idea to include a border of some sort in your program to prevent the character from moving off the screen, because if it does move off the screen your program will crash. Why? Because the character will have moved into the BASIC RAM or some other important section of memory. Once a border is added (check the REM statements in the programs) you can add a routine that will check for the border before POKing or POSITIONing your character on the next screen location. For example, let's say that your character was one space away from the bottom border and you pushed your joystick in the downward direction. The routine that checks for the border would stop your movement by zeroing out your D variable and returning you to the joystick read routine. No movement would be registered on the screen. In the

Atari version, the border checking routine actually checks for an "imaginary" border. If the POSITION statement exceeds the legal positions then you are returned to the joystick read routine at line 120 (line 115 for VIC).

Once the program reads the direction in which you are pushing the joystick, adds the appropriate number to the location variable and checks for the border, it is almost ready to move your anxious alien. One more step is required, though; the program must erase the alien from its current screen location. This is done on the Commodore computers simply by POKing a space (in this case character 32—line 160 in the VIC program, 150 in the C-64 program and 135 in the Atari program) to the screen location or, on Atari, by POSITIONing and PRINTing a space on the location. Finally, everything is set to move your alien: a POKE or POSITION and PRINT to the next location and there you have it: an ambulatory alien.

On the Commodore machines it takes two POKEs—one for the movement of the character and the other for the movement of the character's color. It may sound tricky to you at first, but it really is quite easy. Line 105 on the Commodore programs contains a variable which I call CC for "color constant." This constant is the difference between the screen (location), RAM and the color RAM on the Commodore computers. In the programs at the end of this article, the custom character is POKEd into the letter "B" (as I did in January's Hacker's Helper), which is character (2). The difficult part of getting the color to catch up with the character when it moves is therefore taken care of by just POKing L with the character (2), and subsequently POKing L + CC with the character's color (7 for yellow).

Alien Motion

To make the alien move many spaces in any direction, just hold down the joystick. The process will be repeated until you release it. I should tell you that in programming there is usually more than one way to do something. For example, the Atari and Commodore 64 versions of the joystick routine use a dimensioned array to store the values for the direction variable. I do this because it is faster to look up the value from the table than it is to use many IF...THEN statements that assign a value if a condition is met. On the VIC, however, it is more efficient to use the IF...THENs and add together their values to get diagonal movement. If I had programmed the routine on the Atari with IF...THENs, I would have had to use eight IF...THENs which would have dramatically slowed down the movement.

Try experimenting with the programs. You may want to add a maze or some other type of background. To make these programs complete games you have to add a background, an objective or foe and a scoring routine. Next month, I'll show you how to add a maze with random treasures and a scoring routine.

VIC-20

```
10   REM BY ROBERT
     ALONSO
25   POKE36869,255:REM
     POINTER SET TO
     POINT TO 7168
35   FORX=7168TO7679:
     POKEX,PEEK(X+
     25600):NEXTX
45   FORY=7184TO7191:
     READA:POKEY,A:
     NEXTY
50   POKE52,28:POKE56,28:
     CLR:REM PROTECTS
     CHARACTER SET
100  REM ***JOYSTICK
     READ ROUTINE***
105  CC=30720:L=7933:
     PRINT"■";:GOSUB400
107  REM ***PLACE ALIEN
     ON SCREEN***
110  POKEL,2:POKEL+CC,7
112  REM ***READ
     MEMORY LOCA-
     TIONS***
115  POKE37154,127:P=
     PEEK(37152)AND128:
     J0=-(P=0)
120  POKE37154,255:P=
     PEEK(37151):J1=-
     ((PAND8)=0)
125  J2=-((PAND16)=0):
     J3=-((PAND4)=0)
130  IFJ0THEND=D+1
135  IFJ1THEND=D+22
140  IFJ2THEND=D-1
145  IFJ3THEND=D-22
150  REM ***CHECK FOR
     BORDER***
155  IFPEEK(L+D)=63
     THEND=0:GOTO115
157  REM ***ERASE
     ALIEN AND PLACE IN
     NEW LOCATION***
160  POKEL,32:L=L+D:
     POKEL,2:POKEL+
     CC,7:D=0:GOTO115
395  REM ***SET UP
     SCREEN BORDER***
400  FORX=7672TO7679:
     POKEX,255:NEXT
405  FORX=7680TO7702:
     POKEX,63:POKEX+
     484,63:POKEX+
     CC,0:POKEX
     +483+CC,0:NEXT
410  FORX=7680TO8164
     STEP22:POKEX,63:
     POKEX+21,63
415  POKEX+CC,0:POKEX
     +21+CC,0:NEXT:
     RETURN
795  REM ***DATA FOR
     ALIEN CREATURE***
800  DATA 73,42,62,107,62,
     62,107,0
```

C-64

```
10   REM BY ROBERT
     ALONSO
15   POKE53272,(PEEK
     (53272)AND240)OR12
20   POKE56334,PEEK
     (56334)AND254
25   POKE1,PEEK(1)
     AND251
30   FORX=12288TO12799:
     POKEX,PEEK(X+
     40960):NEXT
40   POKE1,PEEK(1)OR4
```

Continued on page 74

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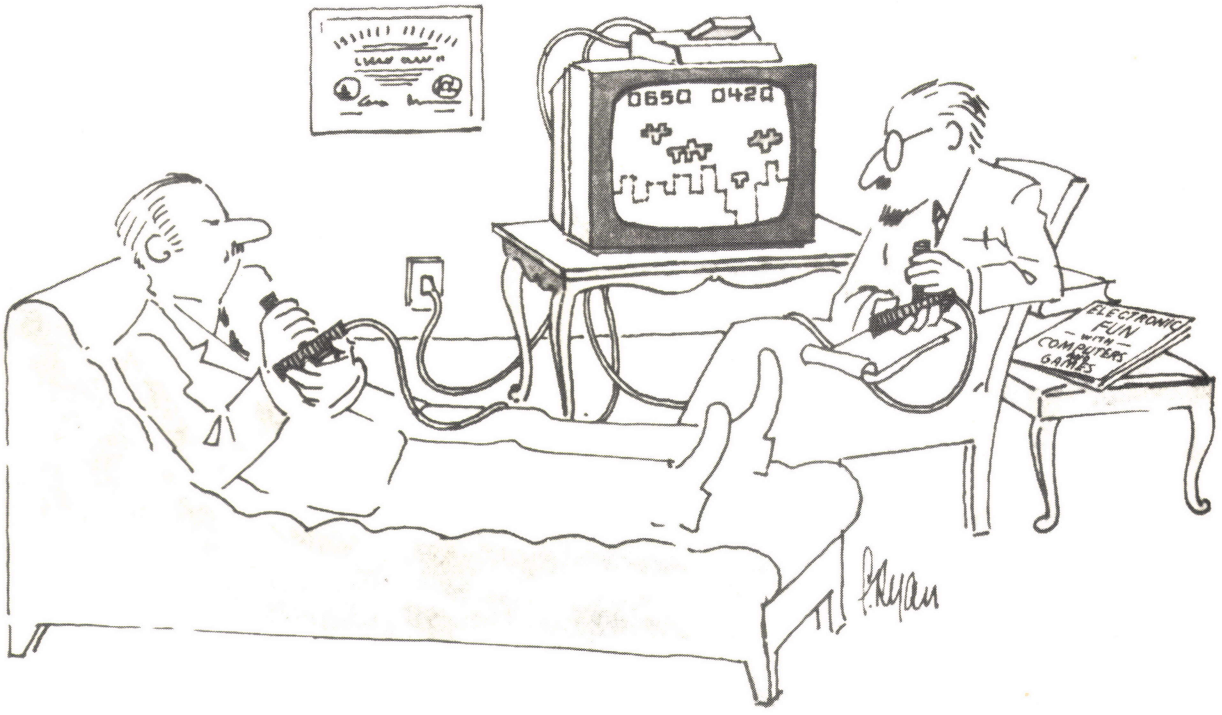

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HACKER'S HELPER

Continued from 72

```
 45  POKE56334,PEEK
     (56334)AND1
 50  FORY=12304TO12311:
     READA:POKEY,A:
     NEXT
 55  POKE52,48:POKE56,
     48:CLR:REM PRO-
     TECTS CHARACTER
     SET
100  REM ***JOYSTICK
     READ ROUTINE***
105  GOSUB500:L=1483:
     CC=54272:PRINT
     "{CLR}":GOSUB400
110  REM ***PLACE ALIEN
     ON SCREEN***
115  POKEL,2:POKEL+CC,7
117  REM ***READ
     MEMORY LOCATION
     AND LOOK UP THE
     VALUE***
120  J=15-(PEEK(56321)
     AND15)
125  D=R(J)
127  REM ***CHECK FOR
     BORDER***
128  IFPEEK(L+D)=
     63THEND=0:GOTO120
129  REM***ERASE ALIEN
     AND PLACE IN NEW
     LOCATION***
130  POKEL,32:L=L+D:
     POKEL,2:POKEL+
     CC,7:D=0:GOTO120
395  REM ***SET UP
     SCREEN BORDER***
400  FORX=12791TO12799:
     POKEX,255:NEXT
410  FORX=1024TO1064:
     POKEX,63:POKEX+
     960,63:POKEX+CC,1:
     POKEX+CC+960,1:
     NEXT
415  FORX=1024TO1984
     STEP40:POKEX,63:
     POKEX+39,63
420  POKEX+CC,1:POKEX
     +CC+39,1:NEXT:
     RETURN
495  REM***JOYSTICK
     ARRAY***
500  FORX=0TO7:READA:
     NEXT:DIMR(10):FORX
     =0TO10:READA:R(X)
     =A:NEXT:RETURN
795  REM ***DATA FOR
     ALIEN CREATURE***
800  DATA73,42,62,107,
     62,62,107,0
895  REM ***DATA FOR
     JOYSTICK MATRIX***
900  DATA 0,-40,40,0,-1,
     -41,39,0,1,-39,41
```

ATARI

```
 10  REM BY ROBERT
     ALONSO
 20  GRAPHICS 0:PRINT
     "{CLR}":POKE 752,1:
     SETCOLOR 1,9,14
 25  POKE 756,PEEK(106)-8
 35  RA=256*(PEEK
     (106)-8)
 40  FOR I=0 TO 1023:POKE
     RA+I,PEEK(57344
     +I):NEXT I
 50  FOR J=272 TO
     279:READ A:POKE
     RA+J,A:NEXT J
 65  POKE 106,PEEK(106)
     -8:REM PROTECTS
     CHARACTER SET
100  REM ***JOYSTICK
     READ ROUTINE***
105  GOSUB 500:GOSUB
     400:L=20:L1=12
110  REM ***PLACE ALIEN
     ON SCREEN***
115  POSITION L,L1:? "B"
117  REM ***READ
     SYSTEM
     VARIABLE***
120  J=STICK(0)
125  D=D(J):D1=D1(J)
126  REM ***CHECK FOR
     BORDER***
127  S=L+D:S1=L1+D1
128  IF S>38 OR S<1 THEN
     120
129  IF S1>22 OR S1<1
     THEN 120
130  REM ***ERASE
     ALIEN AND PLACE IN
     NEW LOCATION***
135  POSITION L,L1:? "  "
     :L=L+D:L1=L1+D1
140  POSITION L,L1:?
     "B":GOTO 120
395  REM ***SET UP
     SCREEN BORDER***
400  COLOR ASC("♥"):PLOT
     0,0:DRAWTO 39,0
405  DRAWTO
     39,23:DRAWTO 0,23
410  DRAWTO 0,0:PLOT 0,0
415  COLOR ASC("  "):PLOT
     2,1:RETURN
495  REM ***SET UP
     ARRAY FOR
     JOYSTICK***
500  DIM D(15):DIM D1(15)
505  FOR X=0 TO
     4:D(X)=0:D1(X)=0:
     NEXT X
510  FOR X=5 TO 15:READ
     A,B:D(X)=A:D1(X)=
     B:NEXT X:RETURN
795  REM ***DATA FOR
     ALIEN CREATURE***
800  DATA
     73,42,62,107,62,62,
     107,0
895  REM *DATA FOR
     JOYSTICK MATRIX***
900  DATA
     1,1,1,-1,1,0,0,0,-1,
     1,-1,-1
905  DATA
     -1,0,0,0,0,1,0,-1,0,0
```

OUR MAN ON CAMPUS

Continued from 36

white. It's so quiet in there you can hear the future taking shape. Of course, many of the PhD students prefer to use the terminals in their offices, and they can also link up via modem from home.

The whole graduate facility is only a little more than a year old. It recently won a state award for technological excellence. It's no wonder the Columbia grad school attracts professors and students from as far as Poland, Israel and Japan. Mark ranks Columbia among the top computer schools in the country, along with MIT, Stanford, UC Berkeley and Carnegie-Mellon. If you are ready for grad school, this is definitely one to consider. If you're looking to apply to undergraduate school, that's another story. The facilities in the graduate school outshine those available to the undergrad.

Intro courses are open to all students, not just Computer Science majors—which is swell for non-majors but crowds the facilities for majors. The programming language of choice is Pascal though many languages are taught. But if you've only been hammering away in BASIC, you're out of luck. They don't use BASIC here.□

SCREENPLAYS

Continued from page 15

air-to-air missiles the choppers carry. As you match the chopper move for move, fire whatever missiles you might be carrying.

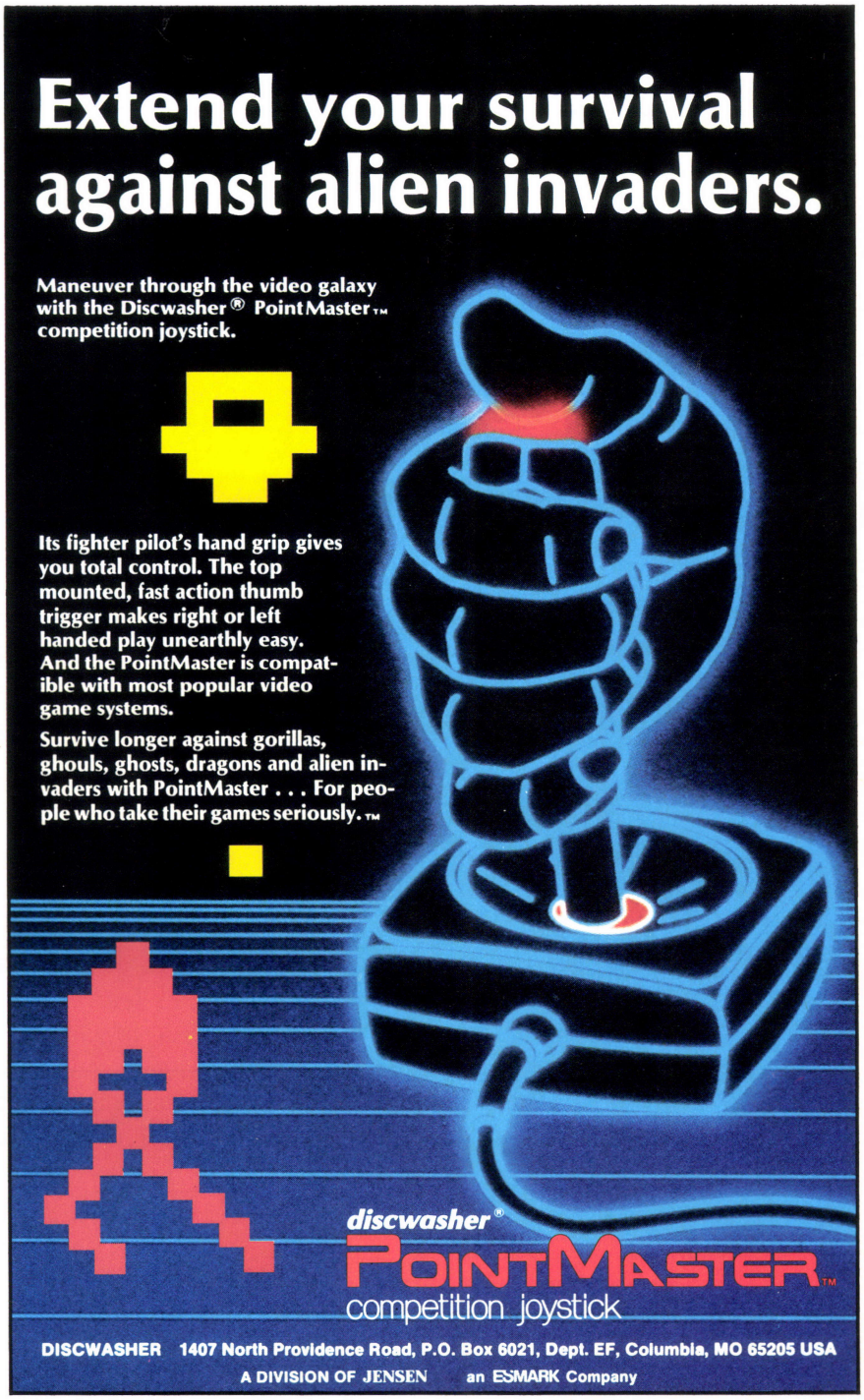
After you pass the first chopper you'll begin the trickiest part of your mission: blowing up the bridge. It's a good idea from this point on to keep the joystick's machinegun trigger depressed at all times; the initial surface-to-air barrage will be easy to avoid, but once you blow the bridge it will get markedly thicker. If you have trouble with this section, you might also try "waggling" your wings with quick, very short side-to-side movements of the joystick; this seems to spread your machinegun fire pattern a little, and helps to catch stray missiles coming at you from slightly off-center. Also, as you approach the bridge you should launch one missile and then immediately shift to the far left-hand side of the screen. A line of targets will instantly appear along the western river bank—and if you miss these, be prepared to face a ton of choppers next.

When the green homing missiles begin to appear, stay low and at center screen. These missiles, for the most part, follow a straight course, but once you change altitude they'll do the same, so a climb or a dive as an evasive manuever is worthless.

In comparison to the fighter game, the bomber game is much easier. The object of this contest is again to eliminate as many ground targets as possible while avoiding enemy flak bursts. As in the fighter game, targets are denoted by a yellow box. Proper placement of bombs is a snap. Just look for the crosshairs ahead of your bomber's nose. When it's over a target, drop away.

Since you fly at a fixed altitude in this mode, the joystick is used to move your bomber either left, right, ahead or back. Initially, it's a good idea to fly close to the bottom of the screen, since doing so will give you more time to react to targets as they appear. Later on when you pass over the harbor, move to center screen. Unseen pursuit planes will begin to fire at you at this point, so play forward to avoid their missiles.

Other than that, there's not much to do. The only protection you'll have from the flak is a good eye and a quick hand. If you see a small green dot in the vicinity of your bomber, you'd be wise to move. In fact, constant movement is your best strategy: just drop and move, drop and move. By doing so, you'll draw enemy flak to one position, and be bombing away in another, safer chunk of airspace by the time the flak explodes.□



COMPUTER WORKOUT

Continued from 63

ability of the printer to operate in a background mode while Adam is being used to do other things. All of these features are present, but they only work from the word processor. None of them are supported from BASIC. Having these features available from BASIC would be a big plus for Adam. The printer that comes with Adam is slow enough as it is, and not to have the bi-directional printing capability from BASIC makes a bad situation even worse.

Apple Compatible?

Unlike the BASIC that comes with most other computers today, the one that comes with the Adam was not written by Microsoft. Known as SmartBASIC, it is meant to be compatible with Applesoft BASIC (which was written by Microsoft). While SmartBASIC does have all of the same commands and functions as Applesoft—with the exception of the Applesoft tape-oriented commands and the FLASH command—the language falls very short of being Applesoft compatible. In fact, I suspect that there are very few Applesoft programs around that will run as is if keyed into the Adam computer. There are several reasons for this. First is the smaller size of the display line, which is 31 characters for the Adam and 40 characters for the Apple. Another obstacle is the fact that the hardware configuration of the two machines is different. Many Apple programs adjust the size of the text window by POKEing one or more of four specific memory locations. Others read the keyboard directly by using PEEK statements, while still others POKE information directly onto the screen, something that cannot be done from SmartBASIC. So, if you limit your programs to those that don't use any PEEKs or POKEs, you can enjoy some degree of Applesoft compatibility.

One of the nice things you get with Adam is a letter-quality, daisy-wheel printer. It uses standard daisy wheels and ribbon cartridges and produces very nice looking documents. Its one major drawback is its printing speed, which is 120 word per minutes, or assuming an average of five letters per word, 10 characters per second. While this is slow compared to other printers, it should be noted that the average person doesn't even type 60 words per minute.

Speed isn't the only problem with this printer, there's noise, too. For some inexplicable reason, the printer makes much more noise than an ordinary electric typewriter, or most other printers .

The tapes used on Adam, while they look like ordinary cassette tapes, aren't. The plastic shell of the cassette tape is missing two holes, which makes it impossible to insert the cassette into an ordinary tape recorder. In addition, it has two extra holes that are not present on ordinary cassettes, which means that ordinary cassettes can't be used on Adam. This poses a serious problem, because Coleco says that there will be no extra blank data packs (as these special cassettes are called) available until sometime in 1984. Thus people who purchase the computer early will have to satisfy themselves with the one blank, one video game and SmartBASIC tape that come with the system.

For those of you who are thinking of drilling the extra two holes required in ordinary cassettes, forget it. The blank data packs are not really blank, but are pre-formatted, much the way a soft-sector disk must be initialized before it can be used. Unlike Apple DOS which has an INIT command that initializes a blank diskette and makes it usable, the INIT command in ADAM's tape operating system only changes the name of the tape volume, and does not initialize a blank tape.

In spite of all its shortcomings, the Adam computer is basically a good

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machine with a lot of potential. Whether that potential ever develops depends on how open Coleco is with the system information required by third party programmers and how quickly they can get their act together. The machine was obviously rushed out. The manuals that accompanied early systems are inaccurate and incomplete.

Coleco is well aware of these shortcomings and has indicated that a new manual is already in the works. By the time you read this, it should be out and Coleco's 800 customer service number should be working. When considered from a systems point of view, Coleco is offering a lot for the money. If what you're really looking for is an Apple compatible computer, then you should simply buy an Apple. But if you want a complete, inexpensive system, with a built-in video game, word processor and a letter-quality printer, considered the Coleco Adam.□

PLAY LASER

Continued from 28

minutes. I don't know whether it's the simplistic graphics in poison greens and neon pinks, the *Robotron* crash-slam sound effects, or just the first-person viewpoint with dumpsterloads of ugly aliens but *Blaster* has to be the noisiest, most downright hostile shoot-'em-up ever created.

The latest (fourth) member of the *DK* series, Nintendo's *Donkey Kong 3*, stars good old Kong himself and a new character, Stanley, who is trying to protect his garden from the depredations of Kong and a host of his insect pals. The graphics are the equal of anything in *Mario Bros.*, and the screens and enemies provide a great range of interesting tactical situations and scoring possibilities.

And what about the other lasers? Well, it's only our opinion, but most of them just didn't make it. Bally's *Astron Belt*, despite graphic improvements, a new time limit that ensures even novice players a reasonable workout for their quarters and near total elimination of the laser blankout period, just seems tired and kind of clumsy next to its more advanced progeny. *Bega's Battle* remains The Fly's favorite laser game, despite the fact that it looks and plays like warmed-over *Space Invaders* to the rest of us. (We chalk up The Fly's enthusiasm to a misguided fascination with Japanese animated features like *Speed Racer*). Taito's *Laser Grand Prix* tries too hard to duplicate what *Pole Position* already does, and ends up doing it not as well; the cars are too big for the track, and the control is sloppy. Konami's *Badlands* may find plenty of fans since its animation and drawing style are both quality, but the version we saw had laser gaps.□

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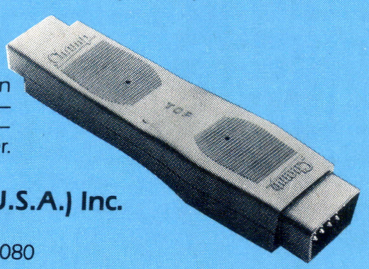

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GAME MAKERS

Continued from 59

ing to do on the machine and say, "Now how are we going to best exploit the capabilities of the machine, modify routines and make this game different?" Activision is known for innovations.

EF: Anything unusual about the stars?

SK: I put in a familiar constellation. Do you know which one?

EF: The Big Dipper? It's the only one I know.

SK: No. Orion.

EF: Why did you do that?

SK: So that you'll feel at home. So space will seem familiar.

EF: How did you pack everything in?

SK: Well, there are two kinds of memory in the VCS. There's ROM and there's RAM. The ROM is what fits into the cartridge normally although other people now are putting RAM into the cartridge and such. The RAM in the VCS is 128 bytes which causes people to say, "How can you do anything with 128 bytes?" Strangely, when I finished my first cut of *Shuttle*, I had 16 bytes free—which is a no-no. Usually you never have bytes free. I did. I had 800 bytes of ROM left and 16 bytes of RAM. I said "What am I gonna do now?" So, being a perfectionist I made 146 changes to add everything we could to make the cart so accurate that people would spend months amazed at what they would discover in this game.

EF: And how many pages of programming went into SPACE SHUTTLE?

SK: 85 pages, single line, about 35 lines per page.

EF: How long did it actually take you?

SK: We figure it took between 4,500 and 5,000 hours of coding. And if you add the time for research, it's probably another 4,000 or 5,000 odd hours—so you've got about 10,000 hours having been put into this cartridge, which is easily 10 times the average cartridge.

EF: Did you originally think that you would be using the switches on the VCS control panel?

SK: I didn't really think about that in the beginning. But when I sat down, a couple of weeks after, I said, "Okay. I need to turn the engines on and off, I need this, I need that, we've got cargo bay doors." I thought, "Man, I don't have a computer keyboard anymore. I can't push "E" for engines, and "C" for cargo bay doors. What am I doing to do?" And then I said, "Well, you know, since you are essentially trying something totally new forget that the VCS is a game. Don't look at the cartridges. This is now a home computer." I'd elevated it to home computer status all of a sudden. Think of those as home computer switches, as a substitute keybaord. You can access the circuitry to those switches. The first one I assigned was the color/black and white switch which I made the engines on and off switch.

The second one I assigned was the game select which gave the player axis information. I knew I had to get data on the screen and I knew I had to get a lot of data. Ultimately you have to look at X, Y, Z, altitude and speed, maybe your stat. And you may have to see those in a short period of time. I didn't want to have to go through the game select 40 times to get to the information. So I tied some of it to the joystick.

The most important thing about this cartridge, I think, is—and I've always believed this in the products I've done even earlier than this—that I human-engineered the cartridge. Take the reset switch for example.

EF: Okay. Tell us about it.

SK: Okay, the intelligent reset switch is something new in a cartridge. When I was playing with the game one day and I was literally on my sixth docking. I was 40 minutes into the game and I was really hot on it. I wanted to see my speed but I couldn't take my eyes off the satellite because it was drifting. So I reached over to game select but I hit reset instead. And I reset the cartridge. For that you want to pound the computer with a baseball bat. Then I said to myself "Ah-hah, see. I just learned. We have to human-engineer the switch." So the switch is actually intelligent. When the game is not playing, such as right now, the demo mode, it works immediately, like it does in all other games. When you're in the middle of the game though, you have to hold it down for two seconds before it actually resets.

EF: How close is it to what the astronauts actually do?

SK: Very. It's very close to the way astronauts are trained. Astronauts first go to a classroom where they kind of get a feeling for the shuttle. Then they get shown videotapes—kind of our demo flight. Then they go in the simulator and they fly the simulator countless times, to get the feel for the shuttle. And if they make mistakes in the simulator, they don't burn up. They simply are told by the ground that "Well, you've made a mistake. Watch it when you come in and set this thing correctly and so forth." That's our baby flight. Then, when they're all ready, they take a regular flight. Well, it's the same thing here. People follow the same progression. This is basically astronaut training.□

INSIDE ATARI

Continued from 31

award for atmosphere here—with about 30 machines in very straight lines. There were the expected titles such as *Xevious, Zoo Keeper, Mario Brothers* and *Moon Patrol* but there were also a lot of pretty esoteric games as well—*Hare Scare, Port Man, Mr. Flea, Cloud 9, Runaway* and *Quantum. Alpine Ski* was there also.

Perhaps the most impressive room was the testing room. Here was a designer's dream. Also a game player's dream, if you want to know the truth. It is usually dimly lit, as if it were an expensive French restaurant. Instead of tables with red checked tablecloths and coq au vin, you had unadorned desks and Donald Duck's nephews. There are VCR's as well as computers, VCS systems and many 5200 machines, each scattered about the room in what appears to be a haphazard fashion.

Although it seemed as if none of this were there in compliance with any divine plan, appearances often lie. Everything was designed to help designers perfect, clean up and put the finishing touches on games in various stages of completion. I was given a demonstration of *Space Dungeon* on the projection screen TV and was blown away by the hugeness of the graphics.

In the far corner, a young man video taped stop action sequences of *Sport Goofy*, a new game for the 5200. These he played back for a spellbound audience of designers who helped him pinpoint problems in movement, animation and graphics. To my left, a young man in a painter's cap steered Huey, Dewey and Louie through white water while close to the door, someone put Mickey Mouse as the Sorceror's Apprentice through his prototype paces.

Nearby, a designer was working diligently on a game for Pam. No, Pam is not his daughter, wife, or even his cat. Pam is Ataritalk for the 5200. The 2600 is affectionately known as Stella. It's become a tradition to name the systems after Atari secretaries. Anyway, the 5200 game on the monitor was an incredible 3-D martial arts adventure called *Black Belt*. The graphics were the best I've seen on any system. The player can throw a variety of Tai Kwon Do punches, kicks and blocks in his quest for treasures. But—get this—the player should avoid fights whenever possible to conserve energy. Just like the great martial arts masters, this game advocates non-aggression. I silently communed with Bruce Lee as I dug the karmic message.

I was driven back to my car. There is a swingingness about Atari but also a strict corporate reticence that characterizes encounters with outsiders. If that's what it takes to make great games, more power to them. But for the longhaul, for a free wheelin' guy like me, I'd rather hang out in some drafty arcade with a crew of non-geniuses, chugging Orange Crush and going for one more extra screen.□

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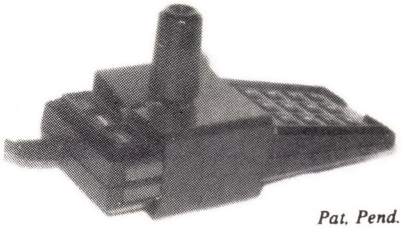
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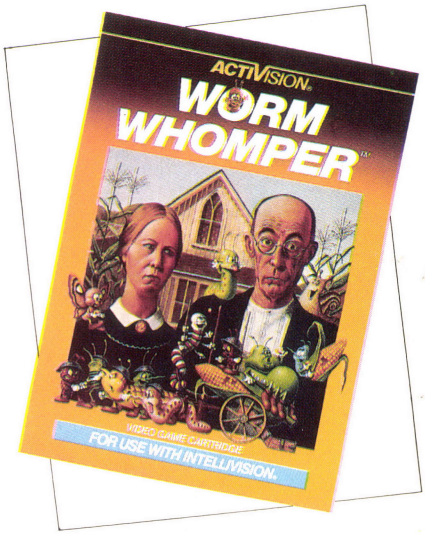
top secret

Can't quite place **that very familiar voice** in the **CUBE QUEST** attract-mode sequence? Why, child, it's none other than **Ken Nordine**, star sound in those weird **Levis TV commercials** (not to mention his own National Public Radio strangeness festival, **Word Jazz**)...You may not recognize **TX-1** when it finally makes it over here. **Atari**'s doing the American release under license from makers **Tazmi**, and word is they'll give it a whole new cabinet (no change in that Cinerama screen setup shown here, though)...**Watch Out, Infocom: Synapse** is gunning for the King of Text Adventures with their own series to be called **Microworlds**. Using a new programming system they claim will "take Interlogic one step further", the series will have **artificially intelligent characters** who can lie, talk to each other as well as to you (even when you're not around), etc. First title: **ENIGMA**, a paranoid fantasy world in which you wake up on a beach, not knowing who you are, where you are, or what to do about it...**Speaking of Infocom**, they're brought nearly all their adventures into the TI 99 and MS-DOS 2.0 worlds, meaning they're now compatible with over 15 different types of home and even business computers...**Games Network** is *finally* coming to Canada, under the title (careful now, imaginative name coming up here) **Canadian Games Network**...Wait till you see the new game for the **PCjr** that **Ken and Roberta Williams** of **Sierra** are cranking on. *Not to be believed*...**Laser Update number 542**: Don't look for **EON AND THE TIME TUNNEL** real soon; it's back on



the drawing board while **Laser Disc Computer Systems** works out some other lasers for licensor **Stern** (turns out their laser **CLIFF HANGER** is also taken from a popular Japanese animated feature, just like **DEGA'S BATTLE**)...**Sega Japan** is all set with a replacement laserdisc for **ASTRON DELT**, and the name is **STAR BLAZER**, friend...**Nintendo and Namco** are still working on their lasers, and one of 'em should be out next month—as should **Starcom/Don Bluth**'s **SPACE ACE**. Unca Don also says he's working on a "special project" with **Oscar-winning screenwriter Robert "Chinatown" Towne**, and thinking about a movie based on **Lair**. He's got a new fan club with a great color newsletter too (you can find out about it by writing to Don Bluth Animation Fan Club, 12229 Ventura Blvd., Studio City, CA 91604)....**Hey, We Were Just Kidding Dept.**: Remember **AMERICAN GORFIC**, one of those "Games You'll Never See" from the January '83 **EF**? We were joking, but Activision isn't—see **WORM WHOMPER** box (now if they'd just take a hint and do our other fake game, **ORIENT EXPRESS**)...**Next from Starpath** for **ColecoVision**: **DRAGONSTOMPER, PHASER PATROL** (yay!)—plus an a-maze-ing VCS sword-and-sorcery role-player called **SWORD OF SAROS** with the whole shebang: secret treasures, invisible mazes, monsters and mucho magic...Wonder how **Atari** got the **FIREFOX** rights? Simple: Clint's a player too, and he's been talking to Atari for *years* (and not just about **Dirty Harry**)...

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